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Volume 4, Chapter 8, 1 of 2

DAMAGE TOLERANT DESIGN HANDBOOK

D.A. Skinn, J.P. Gallagher, A.P. Berens,
P.D. Huber, J. Smith

University of Dayton Research Institute
300 College Park Dr
Dayton, OH 45469-0120

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6. AUTHOR(S) D.A. SKINN, J.P. GALLAGHER,
A.P. BERENS, P.D. HUBER,
J. SMITH

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This report presents a compilation of mechanical property data that are useful for damage tolerant design and analyses. The data of this handbook combines the old data that were previously presented in MCIC-HB-OIR (Damage Tolerant Design Handbook, December 1983) and more recent data that were collected from various sources. The fracture toughness, crack growth, R-curve, sustained load and threshold data are for alloy and stainless steels, nickel based super alloys, titanium alloys and aluminum alloys.

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Table of Contents

VOLUME 1

VOLUME 2

VOLUME 3

VOLUME 4

VOLUME 5

Foreword

This report summarizes the results of a damage tolerant, material property data collection and reporting program conducted under USAF Contract F33615-91-C-5610. The work was sponsored by the Materials Directorate of Wright Laboratory with Mr. Jack Coate of the Systems Support Division serving as the project monitor. The technical effort was conducted between June 1991 and January 1994. The work was performed by the University of Dayton Research Institute under the general supervision of Dr. Joseph P. Gallagher with Dr. Alan P. Berens serving as Principal Investigator.

This final report comprises eight chapters which are presented in five volumes as follows:

VOLUME	CHAPTER	DESCRIPTION
1	1	Handbook organization and content
	2	Methods of calculation
	3	Alloy Steels
	4	Stainless Steels
2	5	Nickel Based Super Alloys
	6	Titanium Alloys
3	7	Aluminum 2000/6000 Series Alloys
4 & 5	8	Aluminum 7000/8000 Series Alloys

A detailed listing of the materials represented in the Handbook is contained in the preceding Table of Contents. In the body of the Handbook, the pages are numbered within chapters and the relevant portion of the table of contents is repeated at the beginning of each chapter.

CHAPTER 8
ALUMINUM 7000/8000 SERIES ALLOYS SECTIONS

TABLE 8.0.1

AVAILABLE DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS

Alloy	Condition/ Heat Treatment	Product Form	K_{Ic}	K_c	R Curve	da/dN	da/dt	K_{Iscc}
7001	T75	Sheet		24		2		
		Plate	12	24				
7005	T6	Sheet		8		4		
		Plate		4				
	T63	Plate						1
	T6351	Plate	8	6				
7007	T6 OVERHEATED WELD CENTER LINE	Plate						1
	T6 REPAIRED WELD CENTER LINE	Plate						1
	T6 REPAIRED WELD FUSION LINE	Plate						1
	T6 REPAIRED WELD HEAT AFF ZONE	Plate						1
	T6 WELD CENTER LINE	Plate						1
	T6 WELD FUSION LINE	Plate						1
	T6 WELD HEAT AFF ZONE	Plate						1
7010	T73651	Plate	16			14		3
7039	T64	Plate					1	
7049	T73	Forging	136			12	1	1
		Extrusion	24					2
		Extruded Bar	25					
	T73 INTEGRALLY STIFFENED	Extrusion						2
	T7351	Plate	8			9		
	T73511-HIGH PURITY	Extrusion				4		
		Extruded Bar	4					

TABLE 8.0.1 (CONTINUED)

AVAILABLE DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS

Alloy	Condition/ Heat Treatment	Product Form	K_{Ic}	K_c	R Curve	da/dN	da/dt	K_{Iscc}
7049 (Cont'd)	T73511-LOW PURITY	Extrusion				5		
		Extruded Bar	4					
	T73511-MEDIUM PURITY	Extrusion				5		
		Extruded Bar	4					
	T7352	Forging	8			8		13
	T76	Extruded Bar	23					
7050	T6	Sheet				6		
		Extrusion				1		
	T6-412972	Sheet				1		
	T73	Forging				1		
	T7351	Plate	90			17		
	T73511	Extrusion				37		
	T73511-HIGH PURITY	Extrusion				5		
		Extruded Bar	4					
	T7351X	Extrusion				12		
	T7352	Forging	6					
	T736	Forging	30			6		2
	T73651	Plate	276			54		4
		Extrusion				2		
	T73652	Forging	50			6		
	T74	Forging	5					
		Hand Forging				6		
	T7451	Plate				25		

TABLE 8.0.1 (CONTINUED)

AVAILABLE DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS

Alloy	Condition/ Heat Treatment	Product Form	K_{Ic}	K_c	R Curve	da/dN	da/dt	K_{Iscc}
7050 (Cont'd)	T74511	Extrusion	12		14	27		
	T745111	Extrusion				1		
	T7452	Forging	7		22	27		
	T76	Sheet				12		
	T7651	Plate	10		40	27		7
	T76511	Plate	1			1		
		Extrusion	8		7	42		
	T7651X	Extrusion				7		
	T7E56	Forging	4					
7050 (ALCLAD)	T76	Sheet		15		15		
7075	Unspecified	Plate					5	
	T6	Sheet		215		42		
		Plate		8		11		1
		Forging	14	4				
		Extrusion	6	5				
		Forged Bar	2					
		Rolled Bar	4					
	T651	Unspecified				9	1	
		Sheet		42				
		Plate	202	78		71	25	7
		Extrusion	22					4
		Rolled Bar	9					

TABLE 8.0.1 (CONTINUED)

AVAILABLE DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS

Alloy	Condition/ Heat Treatment	Product Form	K_{Ic}	K_c	R Curve	da/dN	da/dt	K_{Iscc}
7075 (Cont'd)	T6510	Extrusion	33			5		
		Forged Bar	35					
		Extruded Bar				2		
	T6511	Forging				7		
		Extrusion	12		6	10		
	T6511 #6	Forging				1		
	T73	Sheet		27				
		Plate				3		
		Forging	20					1
		Forged Bar	4			17		
	T7351	Sheet		35				
		Plate	106	144		96	3	16
		Extrusion	32					
	T7351 53.2	Plate				2		
	T73510	Extrusion	12			6		
		Extruded Bar				3		
	T73511	Extrusion	27			26		
		Extruded Bar						5
	T73511-HIGH PURITY	Extrusion				4		
		Extruded Bar	4					
	T73511-LOW PURITY	Extrusion				5		
		Extruded Bar	4					

TABLE 8.0.1 (CONTINUED)

AVAILABLE DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS

Alloy	Condition/ Heat Treatment	Product Form	K_{Ic}	K_c	R Curve	da/dN	da/dt	K_{Iscc}
7075 (Cont'd)	T73511-MEDIUM PURITY	Extrusion				3		
		Extruded Bar	4					
	T7352	Plate				2		
		Forging	37			26		1
		Extrusion	7					
		Billet	1			2		
	T73652	Forging	7					
	T74	Hand Forging				1		
	T74511	Extrusion				1		
	T76	Sheet		12		7		
	T7651	Plate	148	4		17		9
	T7651 (SP)	Plate	10					
	T76511	Extrusion	21			3		1
	UNDERAGED 72HR 158F	Plate					1	
7075 (ALCLAD)	T6	Sheet		206		9		
	T7651	Plate	86					
7079	T6	Sheet		47		4		
		Plate	14				1	5
		Forging	4			4		
		Forged Bar	1					
		Billet				1		

TABLE 8.0.1 (CONTINUED)

AVAILABLE DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS

Alloy	Condition/ Heat Treatment	Product Form	K_{Ic}	K_c	R Curve	da/dN	da/dt	K_{Iscc}
7079 (Cont'd)	T651	Unspecified					5	
		Sheet		23		4		
		Plate	105	29			37	4
	T651+ 50HR AT 320F	Plate					1	
	T651+500HR AT 320F	Plate					1	
	T652	Forging	36			27		
	T851	Plate	9					
7079 (ALCLAD)	T6	Sheet		42				
7080	T7	Forging	2					
		Forged Bar	4					
7149	T73511	Extrusion	6			10		
7150	T651	Plate				9		
	T7751	Plate			16	11		
	T77511	Extrusion				12		
7175	T66	Forging	13				2	3
	T73	Forging	5					
		Extrusion	1					
	T73511	Extrusion	45	35				9
	T7352	Forging	7					
	T7354	Forging				4		
	T736	Forging	93			45	2	2
	T73652	Forging	4			29		20

TABLE 8.0.1 (CONTINUED)

AVAILABLE DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS

Alloy	Condition/ Heat Treatment	Product Form	K_{Ic}	K_c	R Curve	da/dN	da/dt	K_{Iscc}
7175 (Cont'd)	T74	Unspecified				2		
		Forging				32		
	T76511	Extrusion	115			3		
7178	T6	Sheet		64		27		
	T651	Sheet				1		
		Plate	18	7		8	1	
		Extrusion	2					
	T651+ 1HR AT 320F	Plate					1	
	T651+ 8HR AT 320F	Plate					1	
	T651+ 12HR AT 320F	Plate					1	
	T6510	Extrusion	8					
	T76	Sheet				4		
	T7651	Plate	39	8		11	1	
	T76510	Extrusion	15			5		
		Forged Bar	5					
		Extruded Bar				3		
	T76511	Extrusion	13					
7178 (ALCLAD)	T6	Sheet		10				
	T76	Sheet		8				
7475	T6	Sheet				7		
		Plate	2					
	T61	Sheet		80		19		
		Plate		8		2		

TABLE 8.0.1 (CONTINUED)

AVAILABLE DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS

Alloy	Condition/ Heat Treatment	Product Form	K_{Ic}	K_c	R Curve	da/dN	da/dt	K_{Iscc}
7475 (Cont'd)	T6151	Sheet				5		
	T651	Plate	152			11		
	T651 (SP)	Plate	34					
	T73	Plate	6					
	T7351	Plate	330	18	43	124		20
	T7351 (SP)	Plate	26					
	T736	Forging	1					
	T7531	Plate				1		
	T76	Sheet				1		
	T761	Sheet		66	4	40	2	
		Plate		12				
	T7651	Sheet			10	10		
		Plate	28	3	19	23		6
	T7651 (SP)	Plate	20					
	T7651; 255F 4HR	Plate				5		
7475 (ALCLAD)	T61	Sheet		84		31		
		Plate		4				
	T73	Sheet		4				
	T731	Sheet		2				
		Plate		2				
	T761	Sheet		43		15		
		Plate		4				

TABLE 8.0.1 (CONCLUDED)

AVAILABLE DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS

Alloy	Condition/ Heat Treatment	Product Form	K_{Ic}	K_c	R Curve	da/dN	da/dt	K_{Iscc}
8009	UNSPECIFIED	Sheet				6		
8090	T651	Extrusion	6			32		
	T8; 338F 24HRS	Extrusion	1			4		
X7090	T7E69	Plate				6		
X7091	T7E70	Plate				8		

TABLE 8.0.2

PLANE STRAIN FRACTURE TOUGHNESS VALUES OF ALUMINUM 7000/8000 SERIES ALLOYS AT ROOM TEMPERATURE

Alloy	Condition/ Heat Treatment	Product Form	Range of Product Thickness (in.)	K_{Ic} $(Ksi\sqrt{in})$ Specimen Orientation L-T Min Spec Thk	L-T n	L-T Mean	L-T Std Dev	T-L Min Spec Thk	T-L n	T-L Mean	T-L Std Dev	S-L Min Spec Thk	S-L n	S-L Mean	S-L Std Dev
7001	T75	Plate	1.37	1.36	4	24.1	1.7	1.36	5	20.7	1.8	---	---	---	---
7005	T6351	Plate	3.00	2.95	2	46.7	1.0	2.96	3	39.7	0.9	---	---	---	---
7010	T73651	Plate	2.00	0.75	4	33.5	4.6	0.75	5	27.9	2.8	0.75	2	23.1	0.5
7049	T73	Forging	1.00-7.10	0.50	29	30.8	3.0	1.00	20	21.9	2.5	0.50	39	21.3	2.5
		Extrusion	3.00	1.00	3	28.1	0.7	1.00	3	25.2	0.5	---	---	---	---
		Extruded Bar	3.25-3.50	1.00	3	33.2	2.7	1.00	3	22.0	0.5	---	---	---	---
	T7351	Plate	2.00-4.00	---	---	---	---	0.75	4	26.1	1.7	0.75	4	23.8	0.6
	T73511-HIGH PURITY	Extruded Bar	1.50	1.25	2	33.9	0.1	1.25	2	26.0	0.1	---	---	---	---
	T73511-LOW PURITY	Extruded Bar	1.50	1.25	2	23.8	0.3	1.25	2	18.1	0.1	---	---	---	---
	T73511-MEDIUM PURITY	Extruded Bar	1.50	1.25	2	29.7	0.8	1.25	2	22.1	0.5	---	---	---	---
	T7352	Forging	3.00-7.10	2.00	2	38.2	1.0	---	---	---	---	1.00	6	19.5	2.8
	T76	Extruded Bar	3.25-3.50	1.00	3	32.7	1.7	1.00	3	20.0	0.3	---	---	---	---
7050	T7351	Plate	1.00-6.00	1.00	31	34.8	3.9	1.50	29	30.0	2.6	0.75	30	28.0	1.3
	T73511-HIGH PURITY	Extruded Bar	1.50	1.25	2	36.2	3.2	1.25	2	24.1	0.2	---	---	---	---
	T736	Forging	3.00-6.00	0.70	4	32.3	2.3	1.00	4	23.4	1.0	1.51	6	24.6	0.6
	T73651	Plate	1.00-6.00	0.98	86	31.9	3.9	0.99	83	28.7	4.7	0.97	35	23.5	1.5
	T73652	Forging	3.50-7.50	1.50	11	31.1	2.5	1.50	13	20.7	1.4	0.75	17	19.2	1.4

TABLE 8.0.2 (CONTINUED)

PLANE STRAIN FRACTURE TOUGHNESS VALUES OF ALUMINUM 7000/8000 SERIES ALLOYS AT ROOM TEMPERATURE

Alloy	Condition/ Heat Treatment	Product Form	Range of Product Thickness (in.)	K_{Ic} $(Ksi\sqrt{in})$ Specimen Orientation L-T Min Spec Thk	L-T n	L-T Mean	L-T Std Dev	T-L Min Spec Thk	T-L n	T-L Mean	T-L Std Dev	S-L Min Spec Thk	S-L n	S-L Mean	S-L Std Dev
7050 (Cont'd)	T74511	Extrusion	0.75-1.50	0.73	4	40.4	5.0	---	---	---	---	---	---	---	---
	T7452	Forging	4.00	1.00	2	31.1	1.2	1.00	3	23.5	3.0	---	---	---	---
	T7651	Plate	0.75-1.00	0.74	6	33.4	2.8	---	---	---	---	---	---	---	---
	T76511	Extrusion	0.75-1.50	0.73	3	34.8	5.5	---	---	---	---	---	---	---	---
	T7E56	Forging	5.00	---	---	---	---	0.75	4	28.9	3.9	---	---	---	---
7075	T6	Forging	0.50-0.89	0.50	2	24.3	0.1	0.25	2	20.9	1.7	0.50	4	16.8	0.4
		Extrusion	2.00	---	---	---	---	0.75	3	19.9	0.2	0.75	3	18.5	0.2
	T651	Plate	0.37-5.00	0.51	63	26.5	2.0	0.38	75	22.5	2.0	0.50	11	17.6	2.7
		Extrusion	3.00-5.00	1.50	4	31.1	0.5	1.50	5	20.2	0.2	---	---	---	---
		Rolled Bar	5.00	1.50	2	34.1	0.5	---	---	---	---	---	---	---	---
	T6510	Extrusion	0.68-3.50	0.50	12	27.5	2.1	0.50	16	23.3	1.6	0.25	3	20.0	1.3
		Forged Bar	0.68-5.00	0.62	13	29.2	3.4	0.50	13	21.4	1.8	0.25	7	18.7	0.9
	T6511	Extrusion	1.25	1.22	2	27.9	1.4	1.17	4	26.9	1.8	---	---	---	---
	T73	Forging	1.00	---	---	---	---	---	---	---	---	0.50	4	19.1	0.5
	T7351	Plate	1.00-4.00	0.51	47	29.4	2.2	0.51	36	26.2	3.2	0.50	7	18.5	0.4
	T73510	Extrusion	0.68-3.50	---	---	---	---	0.50	9	24.6	2.3	1.00	2	20.3	0.8
	T73511	Extrusion	3.50	1.63	4	39.6	3.1	1.75	3	26.8	1.1	1.00	2	21.9	1.1

TABLE 8.0.2 (CONTINUED)

PLANE STRAIN FRACTURE TOUGHNESS VALUES OF ALUMINUM 7000/8000 SERIES ALLOYS AT ROOM TEMPERATURE

Alloy	Condition/ Heat Treatment	Product Form	Range of Product Thickness (in.)	K_{Ic} $(Ksi\sqrt{in})$ Specimen Orientation L-T Min Spec Thk	L-T n	L-T Mean	L-T Std Dev	T-L Min Spec Thk	T-L n	T-L Mean	T-L Std Dev	S-L Min Spec Thk	S-L n	S-L Mean	S-L Std Dev
7075 (Cont'd)	T73511-HIGH PURITY	Extruded Bar	1.50	1.25	2	43.0	1.7	1.25	2	30.0	0.1	---	---	---	---
	T73511-LOW PURITY	Extruded Bar	1.50	1.25	2	27.3	0.2	1.25	2	21.7	1.7	---	---	---	---
	T73511-MEDIUM PURITY	Extruded Bar	1.50	1.25	2	30.6	0.2	1.25	2	21.9	0.3	---	---	---	---
	T7352	Forging	2.00-6.00	0.75	14	33.6	3.1	0.75	13	26.6	2.8	0.50	8	21.7	3.2
	T73652	Forging	6.00	2.00	3	35.0	1.8	1.75	3	26.6	2.7	---	---	---	---
	T7651	Plate	0.56-2.60	0.75	25	28.5	1.5	0.50	45	23.1	2.0	0.38	16	17.8	1.5
	T76511	Extrusion	1.44-7.04	1.17	6	35.7	4.4	1.25	4	23.6	2.8	---	---	---	---
7075 (ALCLAD)	T7651	Plate	0.50-0.62	0.62	3	28.6	2.2	0.50	26	25.2	1.9	---	---	---	---
7079	T6	Plate	3.00	1.00	8	33.0	2.9	---	---	---	---	---	---	---	---
	T651	Plate	1.00-5.00	0.97	39	27.6	1.8	0.50	27	23.3	2.0	0.50	10	18.6	3.2
	T652	Forging	2.00-6.00	0.75	13	27.8	2.2	0.75	10	23.1	2.2	0.25	12	18.1	0.7
	T851	Plate	1.37-1.50	1.00	7	28.6	1.6	1.00	2	21.3	3.4	---	---	---	---
7149	T73511	Extrusion	3.00	1.01	3	31.5	0.8	1.01	3	24.2	0.3	---	---	---	---
7175	T66	Forging	1.00	---	---	---	---	0.50	2	23.2	3.1	0.50	7	20.8	1.1
	T73	Forging	1.00-8.50	---	---	---	---	---	---	---	---	0.50	4	27.1	1.2
	T73511	Extrusion	1.30-1.80	0.50	17	32.8	6.5	0.50	12	27.0	4.9	---	---	---	---
	T7352	Forging	0.75	---	---	---	---	0.62	2	24.5	0.5	---	---	---	---

TABLE 8.0.2 (CONCLUDED)

PLANE STRAIN FRACTURE TOUGHNESS VALUES OF ALUMINUM 7000/8000 SERIES ALLOYS AT ROOM TEMPERATURE

Alloy	Condition/ Heat Treatment	Product Form	Range of Product Thickness (in.)	K_{Ic} $(Ksi\sqrt{in})$ Specimen Orientation L-T				T-L				S-L			
				Min Spec Thk	n	Mean	Std Dev	Min Spec Thk	n	Mean	Std Dev	Min Spec Thk	n	Mean	Std Dev
7175 (Cont'd)	T736	Forging	1.00-4.00	0.50	4	31.2	3.8	0.50	10	26.4	3.6	0.50	23	25.3	2.1
	T73652	Forging	1.25-3.10	1.25	2	32.7	8.0	---	---	---	---	---	---	---	---
	T76511	Extrusion	1.40-3.75	0.60	48	32.9	3.5	0.60	36	22.6	2.5	0.75	3	20.9	1.3
7178	T651	Plate	0.50-1.37	0.50	5	25.3	1.9	0.46	10	21.5	1.8	0.50	3	15.0	0.3
	T6510	Extrusion	0.68-3.50	---	---	---	---	0.50	6	18.5	1.3	1.00	2	14.5	0.1
	T7651	Plate	0.50-2.00	0.45	16	27.8	1.8	0.45	18	23.1	2.4	0.50	5	17.3	0.4
	T76510	Extrusion	0.68-3.50	0.62	6	30.5	1.0	0.62	5	26.8	1.1	1.00	2	16.2	0.4
		Forged Bar	3.50	---	---	---	---	0.50	5	19.2	1.2	---	---	---	---
	T76511	Extrusion	0.40-1.44	0.40	2	25.7	0.3	---	---	---	---	---	---	---	---
7475	T651	Plate	0.62-2.62	0.86	19	40.1	2.4	0.65	120	34.6	3.5	1.00	8	32.9	2.5
	T651 (SP)	Plate	1.30-2.00	1.28	8	35.3	1.9	1.28	11	34.4	2.1	0.50	10	27.3	1.6
	T7351	Plate	1.25-4.00	1.27	150	47.1	4.9	1.00	109	37.2	4.0	0.50	60	30.6	2.7
	T7351 (SP)	Plate	1.75-3.25	---	---	---	---	0.75	17	37.6	2.5	---	---	---	---
	T7651	Plate	0.87-2.00	0.95	11	42.1	3.7	0.89	8	34.0	2.9	0.75	5	27.6	0.8
	T7651 (SP)	Plate	1.75-2.00	1.79	3	42.4	2.9	1.00	3	35.7	0.4	0.75	6	27.3	2.1
8090	T651	Extrusion	1.00	0.25	5	20.4	5.9	---	---	---	---	---	---	---	---

TABLE 8.0.3.1

PLANE STRESS AND TRANSITIONAL FRACTURE TOUGHNESS ALUMINUM 7000/8000 SERIES ALLOYS (WITHOUT BUCKLING CONSTRAINTS)

Alloy	Condition/ Heat Treatment	Test Temp (°F)	Specimen		Yield Strength (Ksi)	K_c (Ksi$\sqrt{in}$) Specimen Thickness (in.) n - Sample size μ - Mean σ - Standard Deviation														
						0.063			0.125			0.250			0.500			1.000		
			Orient	Width (in.)		n	μ	σ	n	μ	σ	n	μ	σ	n	μ	σ	n	μ	σ
7001	T75	R.T.	L-T	20.0	70.6-72.2	---	---	---	---	---	---	---	---	---	---	---	---	12	33.0	5.9
			T-L	3.0	67.7-68.6	---	---	---	12	39.5	2.6	---	---	---	---	---	---	---	---	---
				20.0	69.6-71.3	---	---	---	---	---	---	---	---	---	---	---	---	12	28.6	3.2
7075	T6	R.T.	L-T	15.0	73.5	---	---	---	---	---	---	---	---	---	2	64.0	12.7	---	---	---
				16.0	75.7-80.1	5	65.6	5.0	3	60.2	1.3	2	59.9	1.4	---	---	---	---	---	---
			T-L	3.0	72.9-77.0	---	---	---	8	51.5	2.5	---	---	---	---	---	---	---	---	---
				5.0	75.5	2	58.3	4.0	---	---	---	---	---	---	---	---	---	---	---	---
				15.0	73.3-76.0	---	---	---	---	---	---	2	57.2	3.7	2	49.3	.6	---	---	---
				16.0	72.9	5	62.1	3.4	---	---	---	---	---	---	---	---	---	---	---	---
				24.0	69.0-75.5	7	46.2	5.8	---	---	---	---	---	---	---	---	---	---	---	---
	T651	R.T.	L-T	3.0	77.3-79.1	---	---	---	3	52.6	2.9	2	46.2	.0	---	---	---	---	---	---
				4.0	77.3	---	---	---	---	---	---	2	61.3	4.6	---	---	---	---	---	---
				20.0	76.6-80.3	---	---	---	---	---	---	---	---	---	---	---	---	12	75.4	9.1
			T-L	3.0	73.4-77.7	---	---	---	9	48.6	1.2	16	43.9	3.2	---	---	---	---	---	---
				4.0	72.0-75.4	---	---	---	---	---	---	12	50.2	4.5	2	34.9	1.5	---	---	---
				15.0	77.2	---	---	---	---	---	---	---	---	---	2	47.8	2.6	---	---	---
				20.0	73.6-77.4	---	---	---	---	---	---	---	---	---	---	---	---	12	35.1	3.2
	T73	88.	L-T	16.0	60.0	2	82.9	3.6	---	---	---	---	---	---	---	---	---	---	---	---
	T7351	R.T.	L-T	8.0	61.1-62.1	---	---	---	---	---	---	---	---	---	9	61.4	10.4	3	45.8	5.3
				16.0	61.1-62.1	---	---	---	---	---	---	---	---	---	---	---	---	7	52.7	6.3
				20.0	60.6-64.6	---	---	---	---	---	---	---	---	---	---	---	---	12	96.6	10.9
				36.0	61.1-62.1	---	---	---	---	---	---	---	---	---	---	---	---	3	66.6	3.0
			T-L	20.0	63.6	---	---	---	---	---	---	---	---	---	---	---	---	4	46.4	1.2

TABLE 8.0.3.1 (CONTINUED)

PLANE STRESS AND TRANSITIONAL FRACTURE TOUGHNESS ALUMINUM 7000/8000 SERIES ALLOYS (WITHOUT BUCKLING CONSTRAINTS)

Alloy	Condition/ Heat Treatment	Test Temp (°F)	Specimen		Yield Strength (Ksi)	K_c (Ksi$\sqrt{in}$) Specimen Thickness (in.) n - Sample size μ - Mean σ - Standard Deviation														
			Orient	Width (in.)		0.063			0.125			0.250			0.500			1.000		
						n	μ	σ	n	μ	σ	n	μ	σ	n	μ	σ	n	μ	σ
7075 (ALCLAD)	T6	R.T.	L-T	30.0	71.8	2	90.0	6.2	---	---	---	---	---	---	---	---	---	---	---	---
			T-L	30.0	69.8	2	75.4	.4	---	---	---	---	---	---	---	---	---	---	---	---
7079	T651	R.T.	L-T	3.0	74.7	---	---	---	---	---	---	3	51.5	1.7	---	---	---	---	---	---
				20.0	74.3-76.1	---	---	---	---	---	---	---	---	---	---	---	---	12	64.8	7.5
			T-L	3.0	71.4-72.6	---	---	---	3	51.7	.6	2	40.5	2.6	---	---	---	---	---	---
				20.0	71.3-72.6	---	---	---	---	---	---	---	---	---	---	---	---	12	38.0	1.2
7178	T6	R.T.	L-T	2.0	82.4-83.4	11	46.3	3.3	---	---	---	---	---	---	---	---	---	---	---	---
				3.0	75.3-83.6	---	---	---	12	50.6	4.6	---	---	---	---	---	---	---	---	---
				16.0	81.6	5	47.7	2.2	---	---	---	---	---	---	---	---	---	---	---	---
			T-L	2.0	77.8-81.0	13	44.6	2.5	---	---	---	---	---	---	---	---	---	---	---	---
				3.0	75.3-79.4	---	---	---	13	38.8	3.8	---	---	---	---	---	---	---	---	---
				16.0	78.6	5	46.5	1.8	---	---	---	---	---	---	---	---	---	---	---	---
	T651	R.T.	L-T	4.0	84.3	---	---	---	---	---	---	2	49.9	2.1	---	---	---	---	---	---
			T-L	4.0	79.5-80.4	---	---	---	---	---	---	5	28.0	2.9	---	---	---	---	---	---
	T7651	R.T.	L-T	20.0	71.2	---	---	---	---	---	---	---	---	---	---	---	---	3	48.8	1.0
			T-L	4.0	71.0	---	---	---	---	---	---	2	36.0	1.3	---	---	---	---	---	---
				20.0	70.5	---	---	---	---	---	---	---	---	---	---	---	---	3	33.1	1.1
7475	T61	R.T.	L-T	16.0	74.1-76.8	6	89.3	5.1	---	---	---	---	---	---	---	---	---	---	---	---
			T-L	16.0	72.6-73.8	6	85.7	4.8	---	---	---	---	---	---	---	---	---	---	---	---
		88.	L-T	16.0	75.6	3	78.5	6.9	---	---	---	---	---	---	---	---	---	---	---	---
			T-L	16.0	71.6	3	85.0	6.6	---	---	---	---	---	---	---	---	---	---	---	---
	T761	R.T.	L-T	16.0	66.4-70.5	5	95.8	5.9	---	---	---	---	---	---	---	---	---	---	---	---
			T-L	16.0	65.0-69.0	5	94.4	3.1	---	---	---	---	---	---	---	---	---	---	---	---
		88.	L-T	16.0	73.6	3	75.8	9.5	---	---	---	---	---	---	---	---	---	---	---	---
			T-L	16.0	71.4	3	90.2	6.0	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 8.0.3.1 (CONCLUDED)

PLANE STRESS AND TRANSITIONAL FRACTURE TOUGHNESS ALUMINUM 7000/8000 SERIES ALLOYS (WITHOUT BUCKLING CONSTRAINTS)

Alloy	Condition/ Heat Treatment	Test Temp (°F)	Specimen		Yield Strength (Ksi)	K_c ($Ksi\sqrt{in}$) Specimen Thickness (in.) n - Sample size μ - Mean σ - Standard Deviation														
						0.063			0.125			0.250			0.500			1.000		
			Orient	Width (in.)		n	μ	σ	n	μ	σ	n	μ	σ	n	μ	σ	n	μ	σ
7475 (ALCLAD)	T61	R.T.	L-T	16.0	69.3-71.8	8	84.2	11.9	---	---	---	---	---	---	---	---	---	---	---	---
			T-L	16.0	66.5-68.4	8	86.8	7.4	---	---	---	---	---	---	---	---	---	---	---	---
	T761	R.T.	L-T	16.0	62.0-66.9	6	92.3	7.9	---	---	---	---	---	---	---	---	---	---	---	---
			T-L	16.0	60.5-64.9	6	90.0	6.9	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 8.0.3.2

PLANE STRESS AND TRANSITIONAL FRACTURE TOUGHNESS ALUMINUM 7000/8000 SERIES ALLOYS (WITH BUCKLING CONSTRAINTS)

Alloy	Condition/ Heat Treatment	Test Temp (°F)	Specimen		Yield Strength (Ksi)	K_c (Ksi$\sqrt{in}$) Specimen Thickness (in.) n - Sample size μ - Mean σ - Standard Deviation														
			Orient	Width (in.)		0.058			0.080			0.090			0.100			0.280		
						n	μ	σ	n	μ	σ	n	μ	σ	n	μ	σ	n	μ	σ
7050 (ALCLAD)	T76	R.T.	L-T	20.0	67.2	2	114.0	7.5	---	---	---	---	---	---	---	---	---	---	---	---
7075	T6	R.T.	L-T T-L	12.0	75.9	---	---	---	---	---	---	26	71.9	2.8	---	---	---	---	---	---
				15.0	76.2	---	---	---	---	---	---	---	---	---	---	---	---	2	76.5	.2
				24.0	75.9	---	---	---	---	---	---	---	---	---	2	71.5	.2	---	---	---
				36.0	75.9	---	---	---	---	---	---	---	---	---	5	72.8	6.0	---	---	---
				24.0	75.5	10	73.3	8.1	---	---	---	---	---	---	---	---	---	---	---	---
	T651	R.T.	L-T	8.0	78.3	6	63.4	5.5	---	---	---	---	---	---	---	---	---	---	---	---
	T7351	R.T.	L-T	36.0	60.5	---	---	---	---	---	---	---	---	---	---	---	---	2	119.8	23.9
7075 (ALCLAD)	T6	R.T.	L-T	6.0	73.1	---	---	---	6	60.1	5.0	---	---	---	---	---	---	---	---	---
				12.0	73.1	---	---	---	17	70.1	7.1	---	---	---	---	---	---	---	---	---
				24.0	73.1	---	---	---	20	69.2	10.4	---	---	---	---	---	---	---	---	---

TABLE 8.0.4.1

FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE

ORIENTATION: L-S **STRESS RATIO: 0.1 - 0.33** **FREQUENCY: 5.17 - 20. Hz**

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK Level ($Ksi\sqrt{in}$)					
					2.5	5.0	10.0	20.0	50.0	100.0
7010	T73651	PLATE	0.1	20			9.53	36.19		
7079	T652	FORGING	0.33	5.17			15.47			

TABLE 8.0.4.2

FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE

ORIENTATION: L-T **STRESS RATIO: -1.0 - 0.8** **FREQUENCY: 0.08 - 40. Hz**

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle) ΔK Level (Ksi√in) 2.5	5.0	10.0	20.0	50.0	100.0
7001	T75	SHEET	0.05	2				60.09		
7005	T6	SHEET	0.05	2			6.74	29.41		
7010	T73651	PLATE	0.1	20		0.28	2.81	55.45		
			0.3	10		0.51	8.82			
			0.5	10		1.06	11.76			
			0.65	10		1.82	15.59			
			0.65	20		2.9	18.58			
			0.8	10		3.17				
7049	T73511-HIGH PURITY	EXTRUSION	0.1	30			7.98			
	T73511-LOW PURITY	EXTRUSION	0.1	30			7.11			
	T73511-MEDIUM PURITY	EXTRUSION	0.1	30			3.41			
7050	T73511	EXTRUSION	0.1	10			5.37	49.71		
	T73511-HIGH PURITY	EXTRUSION	0.1	30			6.18			
	T736	FORGING	0.1	3-10			12.17	59.43		
	T73651	PLATE	0.1	5			4.67	44.92		
			0.1	5-10			7.23	46.45		
			0.1	3-20			9	56.77		
			0.1	25		0.68	3.34	36.26		

TABLE 8.0.4.2 (CONTINUED)

FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE

ORIENTATION: L-T **STRESS RATIO: -1.0 - 0.8** **FREQUENCY: 0.08 - 40. Hz**

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
					ΔK *Level* ($Ksi\sqrt{in}$)					
					2.5	5.0	10.0	20.0	50.0	100.0
7050 (Cont'd)	T74	HAND FORGING	0.1	20			5.01	50.71		
			0.1	30		0.15				
			0.5	20		1.08	11.16			
			0.8	20		2.18				
	T7451	PLATE	-1	10		0.89	5.51			
			-1	10		1.19	7.59			
			-0.66	10		0.67	5.05	39.63		
			-0.33	10		0.6	5.47	31.02		
			0.	10		0.48	6.2			
			0.	10		0.52	5.29	41.81		
			0.02	10		0.44	6.49	45.2		
			0.02	15			5.4	37.98		
			0.55	10	0.14	1.75	15.73			
	T74511	EXTRUSION	0.1	1			7.5			
			0.1	5		0.41	7.55			
			0.1	5-10	0.14	1.48				
			0.1	20	0.05	0.61	7.38			
			0.1	20	0.05	0.46	7.39	49.87		

TABLE 8.0.4.2 (CONTINUED)

FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE

ORIENTATION: L-T | STRESS RATIO: -1.0 - 0.8 | FREQUENCY: 0.08 - 40. Hz

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle) ΔK Level ($Ksi\sqrt{in}$)					
					2.5	5.0	10.0	20.0	50.0	100.0
7050 (Cont'd)	T74511 (Cont'd)	EXTRUSION (Cont'd)	0.1	20-30	0.09	1.01				
			0.1			0.44	5.92			
			0.4	5-10	0.1	0.9	9.71			
			0.4	20	0.12	1.23				
			0.5	20		1.21	10.49			
			0.5	25	0.1	1.23				
			0.8	10			29.64			
			0.8	20		1.71				
			0.8	20	0.17	1.69				
			0.8	20		2.28				
			0.8		0.23	3.03				
	T745111	EXTRUSION	0.1	20		0.4	6.37	52.8		
	T7452	FORGING	0.	5-20	0.27	2.29	8.15	36.94		
			0.1	5			6.88	55.77		
			0.1	5		0.58	5.2			
			0.1	5-15		0.52	7.54	45.45		
			0.1	20		0.14	4.82	57.73		
			0.4	5-15	0.09	0.83	11.73			

TABLE 8.0.4.2 (CONTINUED)

FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE

ORIENTATION: L-T   STRESS RATIO: -1.0 - 0.8   FREQUENCY: 0.08 - 40. Hz

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle) ΔK Level (Ksi√in)					
					2.5	5.0	10.0	20.0	50.0	100.0
7050 (Cont'd)	T7452 (Cont'd)	FORGING (Cont'd)	0.4	20		0.32	7.08			
			0.8	5		4.72				
			0.8	5-30	0.19	2.56				
	T76	SHEET	0.	13.3			7.46	40.29		
			0.33	13.3			10.38	69.05		
	T7651	PLATE	-1	2-10				0.16	6.3	
			0.	1					922.41	
			0.02	1-20		0.53	8.33	24.44		
			0.05	2			5.11			
			0.05	5	0.1	0.88	5.85	40.21	824.71	
			0.1	5	0.09	0.49	6.04			
			0.4	5		1.35	9.51			
			0.4	15	0.09	1.12	9.32			
			0.4	5-20	0.11	1.35				
			0.4		0.13	1.22				
			0.8	10		2.78				
			0.8	10	0.21	2.7				
			0.8	15	0.18	1.17				

TABLE 8.0.4.2 (CONTINUED)

FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE

ORIENTATION: L-T **STRESS RATIO: -1.0 - 0.8** **FREQUENCY: 0.08 - 40. Hz**

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK Level (Ksi√in) 2.5	5.0	10.0	20.0	50.0	100.0
7050 (Cont'd)	T76511	EXTRUSION	-1	2-10		0.3	5.51			
			0.1	1				57.88		
			0.1	5	0.09	0.79	5.49			
			0.1	5	0.12	0.9	7.91			
			0.1	20	0.07	0.62	7.31	42.94		
			0.4	1			10.38			
			0.4	5-10	0.14					
			0.4	20	0.07	1.12	7.89			
			0.8	5	0.23	3.81				
			0.8	20	0.16	1.93				
7075	T6	SHEET	0.02	1				99.02		
			0.02	3				91.73		
			0.02	10			13.95	60.44		
			0.02	0.1-30				54.22		
			0.02	0.1-30				75.47		
			0.02	0.1-30			11.34	49.45		
			0.5	1			36.66			
			0.5	3			45.43			
			0.5	10		6.02	30.42	298.62		

TABLE 8.0.4.2 (CONTINUED)

FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE

ORIENTATION: L-T **STRESS RATIO: -1.0 - 0.8** **FREQUENCY: 0.08 - 40. Hz**

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
					ΔK Level ($Ksi\sqrt{in}$)					
					2.5	5.0	10.0	20.0	50.0	100.0
7075 (Cont'd)	T651	PLATE	0.02	10			8.02	53.63		
			0.02	0.1-30				65.66		
			0.02	1-30		1.69	17.34	80.15		
			0.02	0.1-30				49.44		
			0.02	0.1-30				61.61		
			0.02			1.57	14.98	59.24		
			0.33	7.5			14.89			
			0.5	10		3.02	20.79	657.63		
		UNSPECIFIED	-0.5	2-5	0.09	0.74				
			-0.1	2-5	0.05	0.72	7.7			
			0.1	2-5		0.4	3.04			
			0.5	2-5	0.1	0.68				
	T6510	EXTRUSION	0.33	5.2			24.33			
		EXTRUDED BAR	0.33	5.2			17.11			
	T6511	FORGING	0.1	40	0.09	1.18				
			0.5	30	0.19					
		EXTRUSION	-1			1.01	13.77			
			-0.5			0.76	14.84	53.88		
			0.01			0.99	13.04	68.19		

TABLE 8.0.4.2 (CONTINUED)

FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE

ORIENTATION: L-T STRESS RATIO: -1.0 - 0.8 FREQUENCY: 0.08 - 40. Hz

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle) ΔK Level (Ksi√in) 2.5	5.0	10.0	20.0	50.0	100.0
7075 (Cont'd)	T6511 (Cont'd)	EXTRUSION (Cont'd)	0.4	5	0.15	2.76	29.07			
			0.6		0.19	3.72	35.58			
			0.8	3	0.41	6.36	119.9			
	T73	PLATE	-1	20		0.57	9.02			
			-0.5	20		0.55	8.53			
			0.05	20	0.06	0.58	11.43			
	T7351	PLATE	-1	10			4.99	50.45		
			0.02	0.08			3.92	73.22		
			0.02	1			5.04	41.54		
			0.02	10			3.54	32.48		
			0.02	10			5.1	45.2		
			0.02	10			4.06	42.79		
			0.02	0.1-15			10.86	84.32		
			0.02	0.1-20		0.36	4.38	49.07		
			0.5	10		1.87	11.65	125.97		
	T73510	EXTRUSION	0.33	5.2			12.23			
			0.33	5.2			12.72			
		EXTRUDED BAR	0.33	5.2			12.83	92.16		

TABLE 8.0.4.2 (CONTINUED)

FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE

ORIENTATION: L-T   STRESS RATIO: -1.0 - 0.8   FREQUENCY: 0.08 - 40. Hz

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle) ΔK Level ($Ksi\sqrt{in}$) 2.5	5.0	10.0	20.0	50.0	100.0
7075 (Cont'd)	T73511	EXTRUSION	0.1	10		0.7	11.04	55.56		
			0.1	20		0.84	9.82	58.35		
			0.5	20		2.14	12.88			
			0.5	20		2.22	15.09			
			0.5	25	0.13					
			0.8	20		2.25				
			0.8	30	0.27					
	T73511-HIGH PURITY	EXTRUSION	0.1	30			6.41	37.29		
	T73511-LOW PURITY	EXTRUSION	0.1	30			7.8			
	T73511-MEDIUM PURITY	EXTRUSION	0.1	30			7.46			
	T7352	FORGING	0.33	5.17			13.73			
		BILLET	0.02	1-30				32.78		
	T74	HAND FORGING	0.8	20		2.53				
	T74511	EXTRUSION	0.5	0.5		1.65	10.86			
7079	T6	SHEET	0.05	2				64.8		
			0.5	2				360.68		
		BILLET	0.02	1-30			10.4	108.02		
	T651	SHEET	0.05	2			16.1	93.89		
	T652	FORGING	0.33	5.17			22.35	144.68		

TABLE 8.0.4.2 (CONTINUED)

FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE

ORIENTATION: L-T **STRESS RATIO: -1.0 - 0.8** **FREQUENCY: 0.08 - 40. Hz**

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
					ΔK Level ($Ksi\sqrt{in}$)					
					2.5	5.0	10.0	20.0	50.0	100.0
7149	T73511	EXTRUSION	0.1	2-10		1.61	8.05	54.43		
			0.1	1-20		1.65				
7150	T7751	PLATE	0.1	3		0.52	7.76			
			0.1	5	0.08	0.71	7.54			
			0.1	10	0.09	0.49	7.31			
			0.4	5	0.14	2.11	14.37			
			0.4	10	0.14	1.87	14.89			
			0.4	15	0.15	1.6	11.49			
			0.8	10	0.5	6.53				
	T77511	EXTRUSION	0.1	20	0.16	2.61	9.15	60.08		
			0.1	25	0.34	3.46	8.07			
			0.4	20	0.87	2.07	4.02			
			0.8	20	0.78	6.45				
7175	T736	FORGING	0.02	10			10.52	57.48		
	T73652	FORGING	0.02	1-15	0.12					
			0.02	1-18	0.12	0.76	7.48			
			0.02	0.1-20			8.39	37.54		

TABLE 8.0.4.2 (CONTINUED)

FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE

ORIENTATION: L-T | STRESS RATIO: -1.0 - 0.8 | FREQUENCY: 0.08 - 40. Hz

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle) ΔK Level (Ksi√in) 2.5	5.0	10.0	20.0	50.0	100.0
7175 (Cont'd)	T74	FORGING	0.02	0.08-10			3.44	38.3		
			0.02	0.1-20		0.51	8.78	33.73		
			0.02			0.16	2.43	35.19		
			0.02			0.31	7.65	46.92		
			0.1	10		1.5	9.96			
			0.1	10			9.23	64.01		
			0.1	25	0.13	1.77				
			0.5	10		2.68	16.24			
			0.5	20		2.29	16.19			
			0.5	25	0.14					
			0.8	10		4.66				
			0.8	20	0.2	3.05				
		UNSPECIFIED	0.1	10			4.07	50.49		
7178	T6	SHEET	0.02	1				109.75		
			0.02	5			12.3			
			0.02	13			9.77			
			0.02	14			12.22	89.91		
			0.5	1			39.26			

TABLE 8.0.4.2 (CONTINUED)

FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE

ORIENTATION: L-T **STRESS RATIO: -1.0 - 0.8** **FREQUENCY: 0.08 - 40. Hz**

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle) ΔK Level (Ksi√in) 2.5	5.0	10.0	20.0	50.0	100.0
7178 (Cont'd)	T6 (Cont'd)	SHEET (Cont'd)	0.5	3			59.88			
			0.5	14			44.51			
	T651	SHEET	0.02	0.1-12		0.92	15.34	104.72		
		PLATE	0.	20		0.81	13.19	54.46		
			0.02	0.1-12		1.12	17.2	151.49		
			0.02	0.1-12		0.91	14.1	86.56		
	T76	SHEET	0.02			0.64	7.18	58.42		
			0.02			0.59	7.09	64.88		
	T7651	PLATE	0.33	5.2			12.47			
			0.33	5.2			13.65			
			0.33	5.2			11.95			
	T76510	EXTRUSION	0.33	5.2			12.29			
			0.33	5.2			12.63			
		EXTRUDED BAR	0.33	5.2			13.47			
7475	T6	SHEET	0.1	5				45.57		
			0.1	10			4.74			
			0.3	10			9.35	77.1		
			0.5	5		2.14				
			0.5	10			12.44			

TABLE 8.0.4.2 (CONTINUED)

FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE

ORIENTATION: L-T | STRESS RATIO: -1.0 - 0.8 | FREQUENCY: 0.08 - 40. Hz

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle) ΔK Level (Ksi√in) 2.5	5.0	10.0	20.0	50.0	100.0
7475 (Cont'd)	T61	PLATE	0.1	20			6.53			
	T6151	SHEET	0.1	20			5.12	43.17		
	T651	PLATE	0.33	25		1.03	18.69			
	T7351	PLATE	-1	1					801.56	
			-1	2-15		0.4				
			0.02	0.1-20		0.21	4.39	40.96		
			0.05	5	0.05	0.55	5.31	39.92	575.67	
			0.1	5-10			6.44	66.02		
			0.1	10		0.25	4.99			
			0.1	20			5.65			
			0.1	5-20	0.03	0.34	5.49	49.68		
			0.4	5-15		0.95				
			0.4	20	0.15	1.03	10.09	64.81		
			0.5	10		1.05	14.52			
			0.8	20	0.16	2.43				
			0.8	5-30	0.14	2.46				
	T761	SHEET	0.1	3				44.02	994.06	
			0.1	7	0.07	0.9	8.75	39.95		
			0.1	3-20	0.09	0.6	7.27	40.61		

TABLE 8.0.4.2 (CONTINUED)

FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE

ORIENTATION: L-T **STRESS RATIO: -1.0 - 0.8** **FREQUENCY: 0.08 - 40. Hz**

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
					ΔK *Level* ($Ksi\sqrt{in}$)					
					2.5	5.0	10.0	20.0	50.0	100.0
7475 (Cont'd)	T761 (Cont'd)	SHEET (Cont'd)	0.1	20			5.65	32.53		
			0.4	5	0.14	1.61	13.29	58.93		
			0.4	5-15	0.13	1.74	19.64	69.11		
			0.8	10	0.3	3.67	16.04			
			0.8	3-15	0.07	2.02	23.06			
	T7651	SHEET	0.	6			4.2	41.52		
			0.	30		0.28				
			0.4	30		1.02				
			0.4					76.25		
			0.8	2			21.49			
			0.8	5-10		3.51				
		PLATE	0.	3					512.41	
			0.05	5			6.47	44.83		
			0.05	5-10		0.24				
			0.4	10		0.93	8.86	46.88		
			0.4	20	0.08	0.88				
			0.8	10		4.04				
			0.8	30	0.14	2.25				

TABLE 8.0.4.2 (CONCLUDED)

FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE

ORIENTATION: L-T | **STRESS RATIO: -1.0 - 0.8** | **FREQUENCY: 0.08 - 40. Hz**

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle) ΔK Level (Ksi√in) 2.5	5.0	10.0	20.0	50.0	100.0
7475 (Cont'd)	T7651; 255F 4HR	PLATE	0.05	8		0.39	7.59	90.38	665.88	
			0.4	5						
			0.4	5-15	0.1	1.53				
			0.8	10-15	0.25	3.34	19.14			
7475 (ALCLAD)	T61	SHEET	0.	13.3			5.6	33.04		
			0.	13.3			6.37	31.76		
			0.33	13.3			12.36	57.7		
			0.33	13.3			10.71	52.97		
8009	Unspecified	SHEET	0.1	5	0.29	1.05	4.43			
			0.5	5	0.32	1.25	6.05			
8090	T651	EXTRUSION	0.1	25			0.85	17.86		
			0.33	25		0.27	1.86	34.84		

TABLE 8.0.4.3

FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE

ORIENTATION: T-S **STRESS RATIO: 0.1 - 0.33** **FREQUENCY: 5.17 - 20. Hz**

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK Level (Ksi√in)					
					2.5	5.0	10.0	20.0	50.0	100.0
7010	T73651	PLATE	0.1	20			6.19	22.83		
7075	T7352	FORGING	0.33	5.17			9.75			
7079	T652	FORGING	0.33	5.17			10.3	60.49		

TABLE 8.0.4.4

FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE

ORIENTATION: T-L **STRESS RATIO: 0.0 - 0.8** **FREQUENCY: 1. - 30. Hz**

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle) ΔK Level (Ksi√in) 2.5	5.0	10.0	20.0	50.0	100.0
7010	T73651	PLATE	0.1	20			5.51	88.21		
7049	T73511-HIGH PURITY	EXTRUSION	0.1	30			7.66			
	T73511-LOW PURITY	EXTRUSION	0.1	30			9.32			
	T73511-MEDIUM PURITY	EXTRUSION	0.1	30			8.49			
7050	T73511-HIGH PURITY	EXTRUSION	0.1	30			3.74			
	T736	FORGING	0.1	10			6.94	98.63		
	T73651	PLATE	0.1	5-10			8.05	47.14		
	T7452	FORGING	0.1	5-15	0.09	0.75	7.5			
			0.4	5-20		0.82				
			0.8	10-15	0.18					
7075	T6	SHEET	0.	13.3			6.28	40.73		
			0.33	13.3			11.19	175.2		
	T73510	EXTRUSION	0.33	5.2			14.15			
	T73511-HIGH PURITY	EXTRUSION	0.1	30			4.47	34.47		
	T73511-LOW PURITY	EXTRUSION	0.1	30			8.52			

TABLE 8.0.4.4 (CONTINUED)

FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE

ORIENTATION: T-L **STRESS RATIO: 0.0 - 0.8** **FREQUENCY: 1. - 30. Hz**

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle) ΔK Level (Ksi√in)					
					2.5	5.0	10.0	20.0	50.0	100.0
7075 (Cont'd)	T7352	PLATE	0.02			1.08	10.23			
			0.02			0.48	6.44	59.97		
		FORGING	0.02					27.53		
			0.02			1.88	14.09	132.86		
			0.33	5.17			11.37	65.53		
7075 (ALCLAD)	T6	SHEET	0.	13.3			7.23	73.65		
			0.05	30		0.44				
			0.2	30	0.08	0.72				
			0.33	13.3			13.06	285.41		
			0.4	30	0.17					
7079	T6	FORGING	0.05	9		0.44	7.72	42.69		
			0.5	9	0.19	2.15	26.8			
	T652	FORGING	0.33	5.17			17.05			
7149	T73511	EXTRUSION	0.1	10			12.55	167.45		
			0.1	10-13			12.39	94.91		
			0.1	10-20		1.91	8.89			

TABLE 8.0.4.4 (CONCLUDED)

FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE

ORIENTATION: T-L **STRESS RATIO: 0.0 - 0.8** **FREQUENCY: 1. - 30. Hz**

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
					ΔK *Level* ($Ksi\sqrt{in}$)					
					2.5	5.0	10.0	20.0	50.0	100.0
7175	T73652	FORGING	0.02	1-20			10.1	50.27		
	T74	FORGING	0.02	1-20		0.41	10.27	48.92		
7178	T651	PLATE	0.	20		0.56	12.12	82.3		
	T7651	PLATE	0.33	5.2			16.22			
			0.33	5.2			13.23			
7475	T6151	SHEET	0.1	20			6.79	46.35		
	T76	SHEET	0.33	13.3			9.29			
	T761	SHEET	0.1	20			4.27	43.73		
7475 (ALCLAD)	T61	SHEET	0.	13.3			8.56	22.04		
			0.33	13.3			10.48	33.83		
	T761	SHEET	0.	13.3			6.13	32.92		
			0.33	13.3			10.27	48.15		
8090	T651	EXTRUSION	0.1	25		0.25	0.34			
			0.33	25		0.49	5.12			

TABLE 8.0.4.5

FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE

ORIENTATION: S-T **STRESS RATIO: 0.1 - 0.33** **FREQUENCY: 1. - 10. Hz**

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK *Level* ($Ksi\sqrt{in}$)					
					2.5	5.0	10.0	20.0	50.0	100.0
7050	T73651	PLATE	0.1	1-10			6.44	91.86		
7075	T7352	FORGING	0.33	5.17			13.29			
7079	T652	FORGING	0.33	5.17			18.3			

TABLE 8.0.4.6

FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE

ORIENTATION: S-L **STRESS RATIO: 0.33** **FREQUENCY: 5.17 Hz**

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK Level ($Ksi\sqrt{in}$)					
					2.5	5.0	10.0	20.0	50.0	100.0
7075	T7352	FORGING	0.33	5.17			19.48			
7079	T652	FORGING	0.33	5.17			9.73			

TABLE 8.0.5

STRESS CORROSION CRACKING THESHOLD DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS AT ROOM TEMPERATURE

Alloy	Condition/ Heat Treatment	Product Form	Specimen Orientation	K_{Iscc} $Ksi\sqrt{in}$				
				Environment				
				3.5% NaCl	Shop Cleaning Solvent	Sump Tank Water	JP-4 Jet Fuel	Simulated Seawater
7005	T63	Plate	S-L	28				
7007	T6 OVERHEATED WELD CENTER LINE	Plate	S-L	11				
	T6 REPAIRED WELD CENTER LINE	Plate	S-L	10.6				
	T6 REPAIRED WELD FUSION LINE	Plate	S-L	8.7				
	T6 REPAIRED WELD HEAT AFF ZONE	Plate	S-L	16.3				
	T6 WELD CENTER LINE	Plate	S-L	12				
	T6 WELD FUSION LINE	Plate	S-L	11				
	T6 WELD HEAT AFF ZONE	Plate	S-L	15				
7010	T73651	Plate	T-L	32.5(2)				
			S-L	17				
7049	T73	Forging	S-L	19.8				
		Extrusion	L-S	20.4				
			S-L	20.3				
	T73 INTEGRALLY STIFFENED	Extrusion	L-S	26.7				
			S-L	19.4				

TABLE 8.0.5 (CONTINUED)

STRESS CORROSION CRACKING THESHOLD DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS AT ROOM TEMPERATURE								
Alloy	Condition/ Heat Treatment	Product Form	Specimen Orientation	K_{Iscc} $Ksi\sqrt{in}$ Environment				
				3.5% NaCl	Shop Cleaning Solvent	Sump Tank Water	JP-4 Jet Fuel	Simulated Seawater
7049 (Cont'd)	T7352	Forging	L-T		26.6(2)	21		
			T-L			20(4)		
			S-L			18.6(4)		
7050	T736	Forging	L-T	28.2				
			T-L	24.5				
	T73651	Plate	T-L	29.1		27.8(2)		
	T7651	Plate	L-T				22.5(2)	22.(2)
			T-L				22.5	22.3(2)
7075	T6	Plate	S-L	19				
	T651	Plate	L-T	28.3				
			S-L	17				
	T73	Forging	T-L			25		
	T7351	Plate	L-T				28.7(4)	28.6(4)
			T-L	23.9				
			S-L	21		14.1(2)		

TABLE 8.0.5 (CONTINUED)

STRESS CORROSION CRACKING THESHOLD DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS AT ROOM TEMPERATURE

Alloy	Condition/ Heat Treatment	Product Form	Specimen Orientation	K_{Iscc} $Ksi\sqrt{in}$ Environment: 3.5% NaCl	Shop Cleaning Solvent	Sump Tank Water	JP-4 Jet Fuel	Simulated Seawater
	T73511	Extruded Bar	L-T		35.6			
			S-L			20.6(3)		
	T7352	Forging	S-L	18				
	T7651	Plate	L-T		25(2)	21.8(2)		
			S-L			12.8(4)		
	T76511	Extrusion	T-L	29.1				
7079	T6	Plate	S-L	6.6(4)				
	T651	Plate	S-L	3				
7175	T66	Forging	S-L	6(3)				
	T73511	Extrusion	S-L	24.4(9)				
	T736	Forging	L-T	30.6				
			S-L	18.7				
	T73652	Forging	L-T		27.6(2)	22(4)		
			T-L			19.3(4)	16.9(2)	17.7(2)
			S-T				18.1(2)	17.3(2)

TABLE 8.0.5 (CONCLUDED)

STRESS CORROSION CRACKING THESHOLD DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS AT ROOM TEMPERATURE

Alloy	Condition/ Heat Treatment	Product Form	Specimen Orientation	K_{Iscc} $Ksi\sqrt{in}$ — Environment: 3.5% NaCl	Shop Cleaning Solvent	Sump Tank Water	JP-4 Jet Fuel	Simulated Seawater
7475	T7351	Plate	L-T	40.1(2)		40.7(2)	35.1(2)	35.1(2)
			T-L	32.7(2)		32.8(2)	30.5(2)	30.6(2)
			S-L	25.5(2)		28.8(2)		
	T7651	Plate	L-T			33(2)		
			T-L	35.7(2)		32.7(2)		

TABLE 8.1.1.1

MEAN PLANE STRAIN FRACTURE TOUGHNESS FOR ALUMINUM 7000/8000 SERIES ALLOY 7001 AT ROOM TEMPERATURE

Product Form	Condition/Heat Treatment	K_{Ic} $(ksi\sqrt{in})$								
		Specimen Orientation								
		L-T			T-L			S-L		
		Mean K_{Ic}	Std Dev	n	Mean K_{Ic}	Std Dev	n	Mean K_{Ic}	Std Dev	n
Plate	T75	24.1	1.7	4	20.7	1.8	5	---	---	---

TABLE 8.1.1.2

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7001 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: Lab Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK *Level* (*Ksi*$\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T75	SHEET	0.05	2				60.09		

TABLE 8.1.2.1

ALUMINUM 7001 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	$2.5 * (K_{Ic}/TYS)^2$ (in.)	K_{Ic} K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} K_{Ic} MEAN	K_{Ic} STAN DEV	DATE	REFER
T75	Plate	1.37	R.T.	L-T	70.6	3.000	1.381	NB	1.463	0.24	22.00	24.1	1.7	1973	86213
		1.37			70.6	3.000	1.382	NB	1.560	0.27	23.40			1973	86213
		1.37			72.2	3.000	1.360	NB	1.584	0.32	25.80			1973	86213
		1.37			72.2	3.000	1.364	NB	1.513	0.30	25.00			1973	86213
T75	Plate	1.37	R.T.	T-L	69.6	3.000	1.376	NB	1.587	0.23	21.30	20.7	1.8	1973	86213
		1.37			69.6	3.000	1.377	NB	1.532	0.29	23.60			1973	86213
		1.37			70.6	3.000	1.360	NB	1.564	0.19	19.60			1973	86213
		1.37			71.6	3.000	1.364	NB	1.463	0.19	19.90			1973	86213
		1.37			71.6	3.000	1.381	NB	1.584	0.18	19.10			1973	86213
T75	Plate	1.37	88	S-L	65.9	1.000	0.500	CT	0.494	0.14	15.80	15.8	0.2	1973	86213
		1.37			65.9	1.000	0.500	CT	0.478	0.14	15.60			1973	86213
		1.37			65.9	1.000	0.500	CT	0.510	0.15	15.90			1973	86213

TABLE 8.1.2.2

ALUMINUM 7001 K_C

CONDITION HEAT TREAT	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	CRACK LENGTH INIT (in.) $2a_o$	CRACK LENGTH FINAL (in.) $2a_f$	GROSS STRESS ONSET (Ksi) σ_o	GROSS STRESS MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	K_{app} STAN DEV	K_C (Ksi$\sqrt{in}$)	K_C MEAN	K_C STAN DEV	DATE	REFER
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T75	Sheet	0.12	R.T.	L-T	66.1	3.000	0.119	1.070	1.480	---	32.90	46.34	46.4	1.4	59.35*	---	---	1973	86213
		0.12			67.7	3.000	0.119	1.090	1.360	---	32.00	45.64			53.76*			1973	86213
		0.12			66.1	3.000	0.122	1.080	1.350	---	31.00	43.94			51.77*			1973	86213
		0.12			67.7	3.000	0.122	1.110	1.450	---	33.10	47.81			58.65*			1973	86213
		0.12			66.1	3.000	0.124	1.110	1.650	---	33.30	48.10			66.52*			1973	86213
		0.12			69.3	3.000	0.124	1.090	1.540	---	32.20	45.93			60.20*			1973	86213
		0.12			66.1	3.000	0.125	1.060	1.290	---	34.40	48.15*			55.43*			1973	86213
		0.12			67.7	3.000	0.125	1.110	1.320	---	32.90	47.52			53.97*			1973	86213
		0.12			69.3	3.000	0.125	1.090	1.400	---	33.40	47.64			57.46*			1973	86213
		0.12			67.7	3.000	0.126	1.100	1.380	---	30.90	44.35			52.53*			1973	86213
		0.12			69.3	3.000	0.126	1.090	1.410	---	32.80	46.79			56.76*			1973	86213
		0.12			69.3	3.000	0.127	1.080	1.240	---	32.60	46.21			50.98*			1973	86213
T75	Plate	1.00	R.T.	L-T	70.6	20.000	1.000	7.000	8.420	---	9.10	32.68	29.2	4.8	37.25	33.1	6.0	1973	86213
		1.00			70.6	20.000	1.000	7.000	8.650	---	6.40	22.98			26.75			1973	86213
		1.00			70.6	20.000	1.000	7.000	8.590	---	9.40	33.76			39.07			1973	86213
		1.00			70.6	20.000	1.000	7.000	8.420	---	9.50	34.12			38.89			1973	86213
		1.00			70.6	20.000	1.000	7.000	8.420	---	9.00	32.32			36.84			1973	86213
		1.00			70.6	20.000	1.000	7.000	7.650	---	6.40	22.98			24.43			1973	86213
		1.00			70.6	20.000	1.000	7.000	8.050	---	6.10	21.91			24.15			1973	86213

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.1.2.2 (CONTINUED)

ALUMINUM 7001 K_C

CONDITION HEAT TREAT	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	CRACK LENGTH INIT (in.) $2a_o$	CRACK LENGTH FINAL (in.) $2a_f$	GROSS STRESS ONSET (Ksi) σ_o	GROSS STRESS MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	K_{app} STAN DEV	K_C (Ksi$\sqrt{in}$)	K_C MEAN	K_C STAN DEV	DATE	REFER
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T75 Cont'd	Plate Cont'd	1.00	R.T. Cont'd	L-T Cont'd	70.6	20.000	1.000	7.000	7.720	---	6.70	24.06	Cont'd	Cont'd	25.74	Cont'd	Cont'd	1973	86213
		1.00			72.2	20.000	1.000	7.000	8.500	---	8.60	30.88			35.46			1973	86213
		1.00			72.2	20.000	1.000	7.000	8.650	---	9.10	32.68			38.03			1973	86213
		1.00			72.2	20.000	1.000	7.000	8.420	---	9.00	32.32			36.84			1973	86213
		1.00			72.2	20.000	1.000	7.000	8.020	---	8.40	30.17			33.17			1973	86213
T75	Sheet	0.12	R.T.	T-L	68.6	3.000	0.123	1.090	1.220	---	25.90	36.94	36.0	2.1	40.02	39.5	2.7	1973	86213
		0.12			68.6	3.000	0.123	1.100	1.270	---	24.10	34.59			38.37			1973	86213
		0.12			67.7	3.000	0.124	1.210	1.240	---	22.00	33.79			34.40			1973	86213
		0.12			67.7	3.000	0.124	1.130	1.250	---	24.60	35.97			38.70			1973	86213
		0.12			68.6	3.000	0.124	1.110	1.300	---	24.80	35.82			40.20			1973	86213
		0.12			68.6	3.000	0.124	1.090	1.300	---	23.80	33.95			38.58			1973	86213
		0.12			67.7	3.000	0.125	1.120	1.280	---	28.70	41.71			45.97			1973	86213
		0.12			67.7	3.000	0.125	1.130	1.240	---	24.60	35.97			38.47			1973	86213
		0.12			68.0	3.000	0.126	1.120	1.220	---	24.80	36.04			38.32			1973	86213
		0.12			68.0	3.000	0.126	1.160	1.270	---	25.20	37.54			40.12			1973	86213
		0.12			68.0	3.000	0.128	1.140	1.400	---	24.20	35.61			41.63			1973	86213
		0.12			68.0	3.000	0.128	1.110	1.320	---	24.00	34.66			39.37			1973	86213

TABLE 8.1.2.2 (CONCLUDED)

ALUMINUM 7001 K_C

CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K_{app}			K_C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) $2a_o$	FINAL (in.) $2a_f$	ONSET (Ksi) σ_o	MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	STAN DEV	K_C (Ksi$\sqrt{in}$)	K_C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T75	Plate	1.00	R.T.	T-L	69.6	20.000	1.000	7.000	7.650	---	7.40	26.57	26.2	2.4	28.24	28.7	3.3	1973	86213
		1.00			69.6	20.000	1.000	7.000	7.900	---	7.20	25.86			28.12			1973	86213
		1.00			69.6	20.000	1.000	7.000	8.050	---	7.10	25.50			28.11			1973	86213
		1.00			69.6	20.000	1.000	7.000	8.050	---	7.00	25.14			27.71			1973	86213
		1.00			70.6	20.000	1.000	7.000	8.330	---	8.30	29.81			33.70			1973	86213
		1.00			70.6	20.000	1.000	7.000	7.950	---	7.90	28.37			30.99			1973	86213
		1.00			70.6	20.000	1.000	7.000	8.320	---	8.10	29.09			32.86			1973	86213
		1.00			70.6	20.000	1.000	7.000	8.460	---	8.00	28.73			32.87			1973	86213
		1.00			71.3	20.000	1.000	7.000	7.900	---	6.90	24.78			26.95			1973	86213
		1.00			71.3	20.000	1.000	7.000	7.000	---	6.50	23.34			23.34			1973	86213
		1.00			71.3	20.000	1.000	7.000	8.050	---	6.60	23.70			26.13			1973	86213
		1.00			71.3	20.000	1.000	7.000	7.900	---	6.40	22.98			24.99			1973	86213

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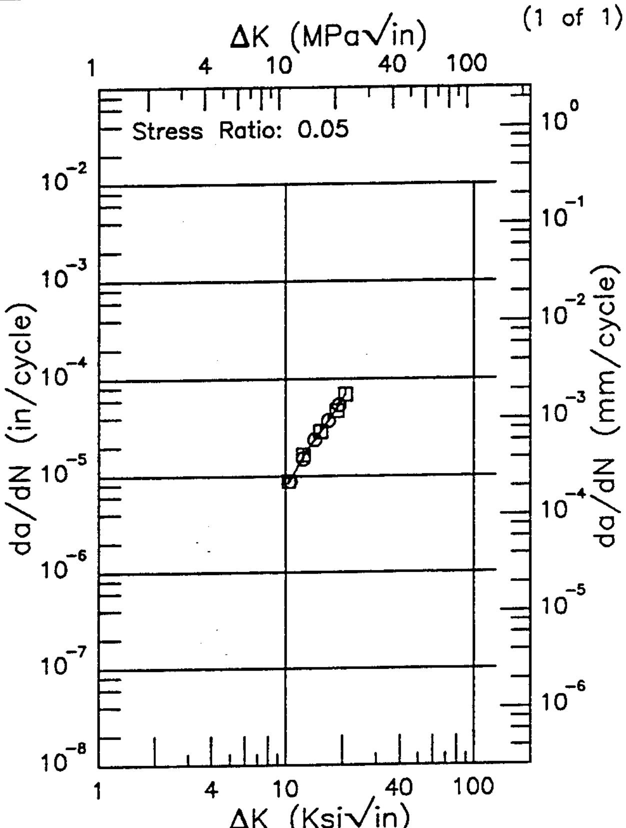
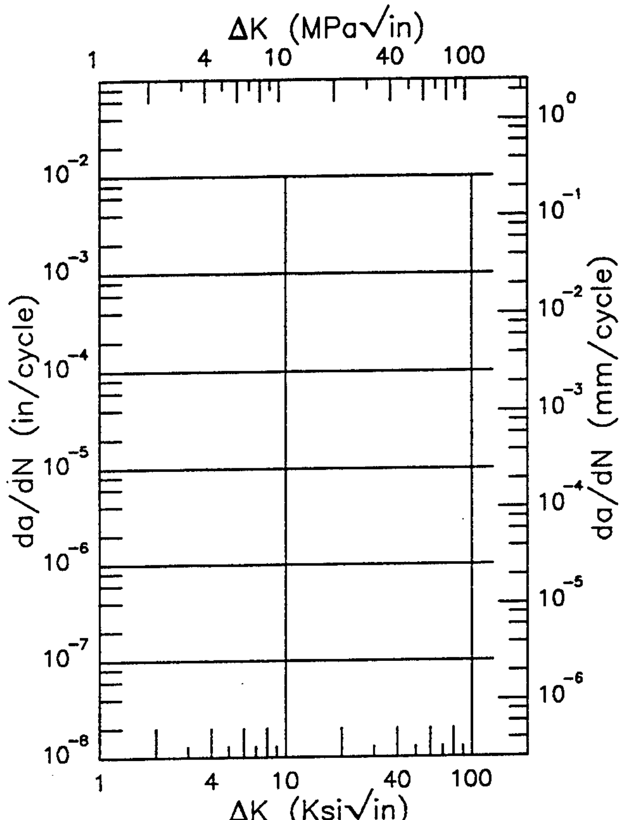
R 7001

Condition/Ht: T75
Form: 0.16 in. Sheet
Specimen Type: CCP (max load specified)
Orientation: L–T
Frequency: 2 Hz
Environment: LAB AIR; RT

Yield Strength: 72.2 ksi
Ult. Strength: 79.6 ksi
Specimen Thk: 0.163 in.
Specimen Width: 9.01 – 9.03 in.
Ref: 86734

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
10.34 (min)	8.33
13.	18.2
16.	32.2
20.	60.1
20.63 (max)	68.9

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
3.05	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.1.3.1

TABLE 8.2.1.1

MEAN PLANE STRAIN FRACTURE TOUGHNESS FOR ALUMINUM 7000/8000 SERIES ALLOY 7005 AT ROOM TEMPERATURE

Product Form	Condition/Heat Treatment	K_{Ic} $(ksi\sqrt{in})$								
		Specimen Orientation								
		L-T			T-L			S-L		
		Mean K_{Ic}	Std Dev	n	Mean K_{Ic}	Std Dev	n	Mean K_{Ic}	Std Dev	n
Plate	T6351	46.7	1.	2	39.7	0.9	3	---	---	---

TABLE 8.2.1.2

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7005 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: Lab Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK *Level* ($Ksi\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T6	SHEET	0.05	2			6.74	29.41		

TABLE 8.2.2.1

ALUMINUM 7005 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • $(K_{Ic}/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_{Ic} (Ksi • $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV		
T6351	Plate	3.00	R.T.	L-T	48.2	6.000	2.953	NB	2.922	2.42	47.40	46.7	1.0	1973	86213
		3.00			48.2	6.000	2.958	NB	2.927	2.28	46.00			1973	86213
T6351	Plate	3.00	R.T.	T-L	49.0	6.000	2.958	NB	2.960	1.56	38.70	39.7	0.9	1973	86213
		3.00			49.0	6.000	2.964	NB	3.107	1.67	40.00			1973	86213
		3.00			49.0	6.000	2.962	NB	2.943	1.71	40.50			1973	86213
T6351	Plate	3.00	82	T-L	49.0	4.500	2.250	NB	2.260	1.72	40.60	---	---	1973	86213
T6351	Plate	3.00	88	S-L	47.5	2.500	1.250	CT	1.209	0.84	27.60	27.6	0.1	1973	86213
		3.00			47.5	2.500	1.250	CT	1.196	0.84	27.50			1973	86213

TABLE 8.2.2.2

ALUMINUM 7005 K_C

CONDITION HEAT TREAT	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	CRACK LENGTH INIT (in.) $2a_o$	CRACK LENGTH FINAL (in.) $2a_f$	GROSS STRESS ONSET (Ksi) σ_o	GROSS STRESS MAX (Ksi) σ_{Max}	K_{app} K_{app} (Ksi$\sqrt{in}$)	K_{app} K_{app} MEAN	K_{app} STAN DEV	K_C K_C (Ksi$\sqrt{in.}$)	K_C K_C MEAN	K_C STAN DEV	DATE	REFER
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T6	Sheet	0.06	R.T.	L-T	43.4	3.000	0.064	1.113	---	---	28.60	41.36*	---	---	---	---	---	1973	86213
		0.06			43.4	3.000	0.064	1.115	---	---	29.10	42.13*			---			1973	86213
T6	Sheet	0.12	R.T.	L-T	45.1	3.000	0.125	1.123	---	---	29.80	43.36*	---	---	---	---	---	1973	86213
		0.12			45.1	3.000	0.125	1.120	---	---	29.60	43.02*			---			1973	86213
T6	Plate	0.25	R.T.	L-T	49.8	4.000	0.258	1.597	---	---	32.40	57.00*	---	---	---	---	---	1973	86213
		0.25			49.8	4.000	0.258	1.597	---	---	32.20	56.65*			---			1973	86213
T6	Sheet	0.06	R.T.	T-L	44.0	3.000	0.064	1.183	---	---	28.60	43.18*	---	---	---	---	---	1973	86213
		0.06			44.0	3.000	0.064	1.147	---	---	28.80	42.53*			---			1973	86213
T6	Sheet	0.12	R.T.	T-L	45.6	3.000	0.125	1.110	---	---	30.10	43.47*	---	---	---	---	---	1973	86213
		0.12			45.6	3.000	0.125	1.123	---	---	30.00	43.65*			---			1973	86213
T6	Plate	0.25	R.T.	T-L	50.6	4.000	0.258	1.598	---	---	32.40	57.05*	---	---	---	---	---	1973	86213
		0.25			50.6	4.000	0.258	1.603	---	---	32.10	56.63*			---			1973	86213
T6351	Plate	1.00	R.T.	L-T	47.2	20.000	1.023	2.610	---	---	40.10	82.06*	---	---	---	---	---	1973	86213
		1.00			47.2	20.000	1.023	7.000	---	---	29.70	106.66*			---			1973	86213
		1.00			47.2	20.000	1.023	4.880	---	---	34.50	99.18*			---			1973	86213
T6351	Plate	1.00	R.T.	T-L	46.5	20.000	1.023	7.000	---	---	28.00	100.55*	---	---	---	---	---	1973	86213
		1.00			46.5	20.000	1.023	2.610	---	---	38.10	77.96*			---			1973	86213
		1.00			46.5	20.000	1.023	4.850	---	---	32.60	93.39*			---			1973	86213

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

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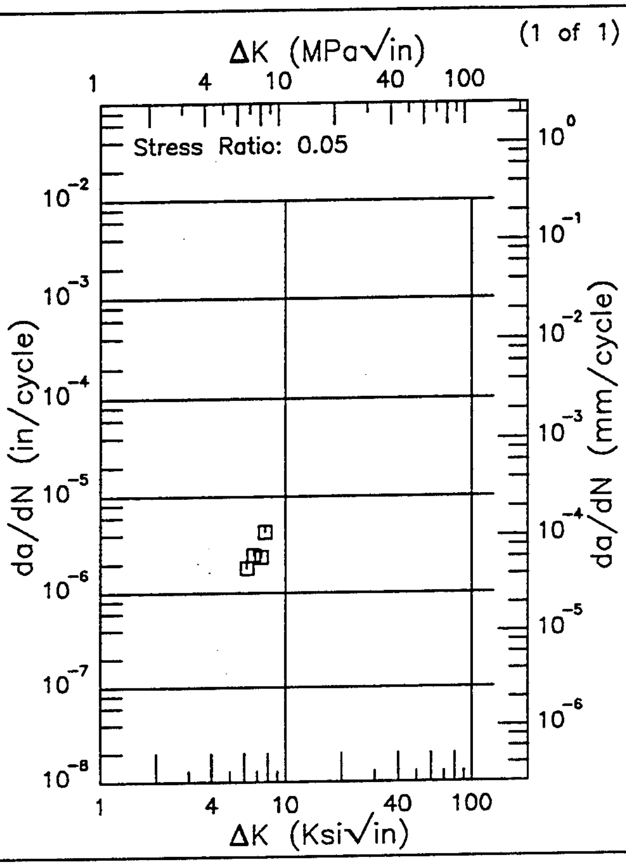
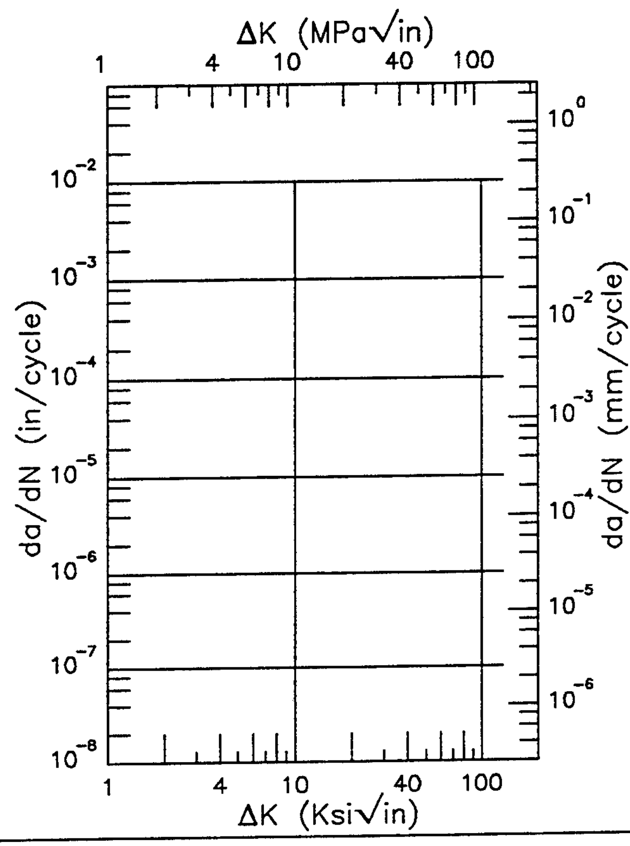
R — 7005

Condition/Ht: T6
Form: 0.16 in. Sheet
Specimen Type: CCP (max load specified)
Orientation: L–T
Frequency: 2 Hz
Environment: LAB AIR; RT

Yield Strength: 49 ksi
Ult. Strength:
Specimen Thk: 0.161 in.
Specimen Width: 3.004 in.
Ref: 86734

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)	ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

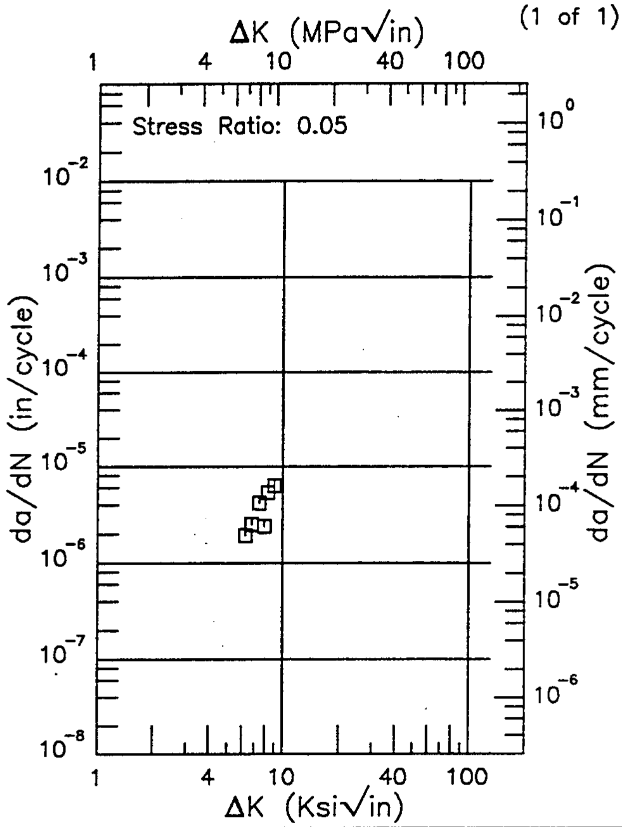
RMS % Error	Life Prediction Ratio Summary	RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.		0. .5 .8 1.25 2.

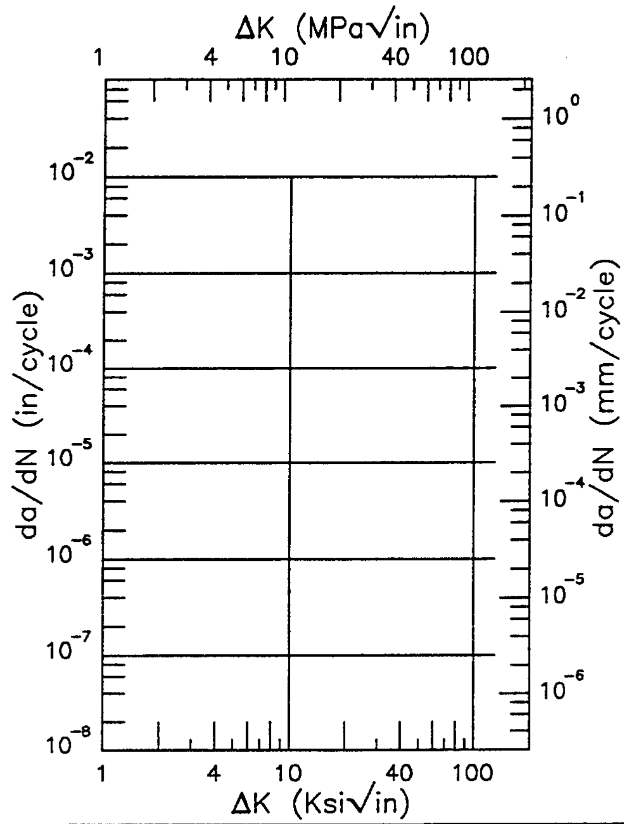
Figure 8.2.3.1.1

Condition/Ht: T6
Form: 0.16 in. Sheet
Specimen Type: CCP (max load specified)
Orientation: L–T
Frequency: 2 Hz
Environment: LAB AIR; RT

Yield Strength: 49 ksi
Ult. Strength:
Specimen Thk: 0.1 in.
Specimen Width: 3 in.
Ref: 86734

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)	ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary	RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.		0. .5 .8 1.25 2.

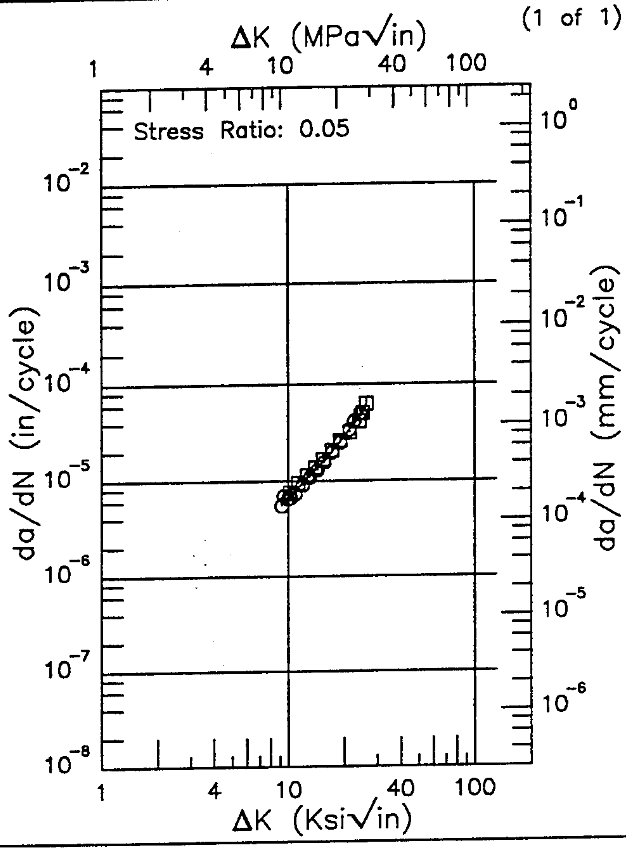
Figure 8.2.3.1.2

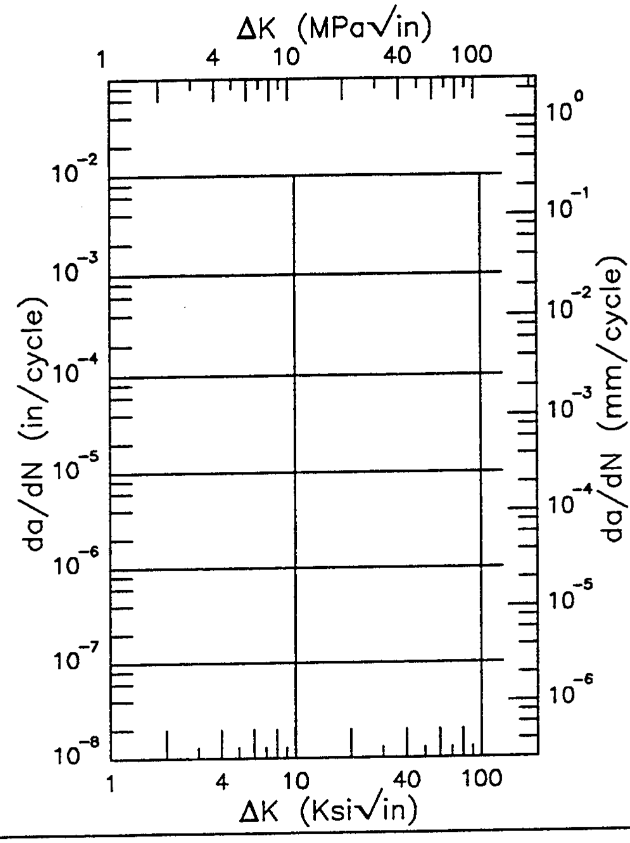
R 7005

Condition/Ht: T6
Form: 0.16 in. Sheet
Specimen Type: CCP (max load specified)
Orientation: L–T
Frequency: 2 Hz
Environment: LAB AIR; RT

Yield Strength: 49 ksi
Ult. Strength:
Specimen Thk: 0.16 – 0.162 in.
Specimen Width: 14 – 14.04 in.
Ref: 86734

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
9.20 (min)	6.14
10.	6.74
13.	11.3
16.	17.3
20.	29.4
25.	50.9
26.14 (max)	61.5

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error	Life Prediction Ratio Summary
6.24	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.2.3.1.3

TABLE 8.2.3.3

K_{Iscc} SUMMARY FOR ALUMINUM ALLOY 7005

Condition/ Heat Treat	Prod Form	Test Temp (°F)	Spec Or.	Yield Str (Ksi)	Envir.	Specimen			Prod Thk (in)	Crack (in)	K_Q (Ksi√in)	K_{Iscc} (Ksi√in)	Test Time (min)	Test Date	Reference
						Design	Width (in)	Thick (in)							
T63	P	R.T.	S-L	46	3.5% NaCl	DCB	4	1	1	---	42	28	---	1968	84331

TABLE 8.3.3.3

K_{Iscc} SUMMARY FOR ALUMINUM ALLOY 7007

Condition/ Heat Treat	Prod Form	Test Temp (°F)	Spec Or.	Yield Str (Ksi)	Envir.	Specimen			Prod Thk (in)	Crack (in)	K_Q (Ksi√in)	K_{Iscc} (Ksi√in)	Test Time (min)	Test Date	Reference
						Design	Width (in)	Thick (in)							
T6 Overheated Weld Center Line	P	R.T.	S-L	37.2	3.5% NaCl	WOL	2.5	1	1	---	35	>11	---	1970	80073
T6 Repaired Weld Center Line	P	R.T.	S-L	---	3.5% NaCl	WOL	2.5	1	1	---	27	10.6	---	1970	80073
T6 Repaired Weld Fusion Line	P	R.T.	S-L	---	3.5% NaCl	WOL	2.5	1	1	---	41	8.7	---	1970	80073
T6 Repaired Weld Heat Aff Zone	P	R.T.	S-L	---	3.5% NaCl	WOL	2.5	1	1	---	42	16.3	---	1970	80073
T6 Weld Center Line	P	R.T.	S-L	39.9	3.5% NaCl	WOL	2.5	1	1	---	42	<12	---	1970	80073
T6 Weld Fusion Line	P	R.T.	S-L	39.9	3.5% NaCl	WOL	2.5	1	1	---	42	<11	---	1970	80073
T6 Weld Heat Aff Zone	P	R.T.	S-L	40.4	3.5% NaCl	WOL	2.5	1	1	---	40	>15	---	1970	80073

TABLE 8.4.1.1

MEAN PLANE STRAIN FRACTURE TOUGHNESS FOR ALUMINUM 7000/8000 SERIES ALLOY 7010 AT ROOM TEMPERATURE

Product Form	Condition/Heat Treatment	K_{Ic} $(ksi\sqrt{in})$								
		Specimen Orientation								
		L-T			T-L			S-L		
		Mean K_{Ic}	Std Dev	n	Mean K_{Ic}	Std Dev	n	Mean K_{Ic}	Std Dev	n
Plate	T73651	33.5	4.6	4	27.9	2.8	5	23.1	0.5	2

TABLE 8.4.1.2.1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7010 AT ROOM TEMPERATURE

ORIENTATION: L-S **ENVIRONMENT: Lab Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK *Level* (*Ksi√in*)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73651	PLATE	0.1	20			9.53	36.19		

TABLE 8.4.1.2.2

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7010 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: Lab Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK *Level* (*Ksi√in*)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73651	PLATE	0.1	20		0.28	2.81	55.45		
		0.3	10		0.51	8.82			
		0.5	10		1.06	11.76			
		0.65	10		1.82	15.59			
		0.65	20		2.9	18.58			
		0.8	10		3.17				

TABLE 8.4.1.2.3

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7010 AT ROOM TEMPERATURE

ORIENTATION: T-S **ENVIRONMENT: Lab Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK Level (Ksi√in) 2.5	5.0	10.0	20.0	50.0	100.0
T73651	PLATE	0.1	20			6.19	22.83		

TABLE 8.4.1.2.4

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7010 AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: Lab Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK Level (Ksi√in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73651	PLATE	0.1	20			5.51	88.21		

TABLE 8.4.2.1

ALUMINUM 7010 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	$2.5 * (K_Q/TYS)^2$ (in.)	K_{Ic} K_Q (Ksi√in.)	K_{Ic} K_Q MEAN	K_{Ic} STAN DEV	DATE	REFER
T73651	Plate	2.00	R.T.	L-T	63.2	1.500	0.750	CT	0.782	0.57	30.20	33.5	4.6	1980	BL001
		2.00			63.2	1.500	0.750	CT	0.777	0.52	28.90			1980	BL001
		2.00			64.4	3.000	1.500	CT	---	0.86	37.80			1980	UD003
		2.00			64.4	3.000	1.500	CT	---	0.83	37.10			1980	UD003
T73651	Plate	2.00	R.T.	T-S	62.9	1.500	0.750	CT	---	0.58	30.30	31.1	1.1	1980	UD003
		2.00			62.9	1.500	0.750	CT	---	0.64	31.80			1980	UD003
T73651	Plate	2.00	R.T.	T-L	62.9	1.500	0.750	CT	---	0.56	29.90	27.9	2.8	1980	UD003
		2.00			62.9	1.500	0.750	CT	---	0.53	29.00			1980	UD003
		2.00			62.9	1.500	0.750	CT	---	0.60	30.80			1980	UD003
		2.00			63.6	1.500	0.750	CT	0.766	0.38	24.80			1980	BL001
		2.00			63.6	1.500	0.750	CT	0.786	0.38	24.90			1980	BL001
T73651	Plate	2.00	R.T.	S-L	65.0	1.500	0.750	CT	---	0.32	23.40	23.1	0.5	1980	UD003
		2.00			65.0	1.500	0.750	CT	---	0.30	22.70			1980	UD003
T73651	Plate	2.00	250	L-T	64.4	3.000	1.500	CT	---	0.87	38.00	38.7	1.0	1980	UD003
		2.00			64.4	3.000	1.500	CT	---	0.94	39.40			1980	UD003
T73651	Plate	2.00	250	T-L	62.9	1.500	0.750	CT	---	0.50	28.00	---	---	1980	UD003

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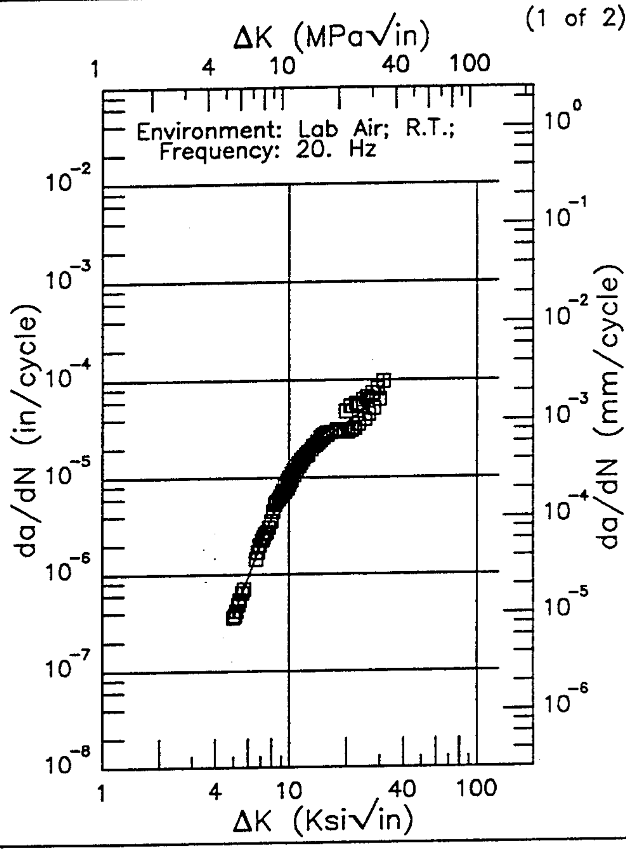
EF 7010

Condition/Ht: T73651
Form: 2 in. Plate
Specimen Type: CT
Orientation: L-S
Stress Ratio: 0.1

Yield Strength: 64.4 ksi
Ult. Strength: 73.7 ksi
Specimen Thk: 0.3 in.
Specimen Width: 1.5 in.
Ref: UD003

(1 of 2)



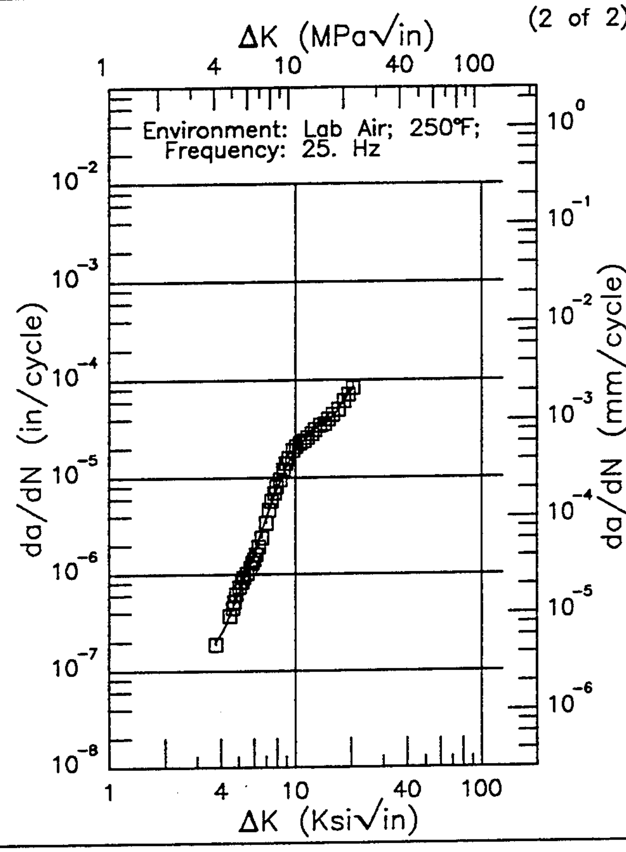
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.00 (min)	0.358
6.	0.909
7.	1.99
8.	3.78
9.	6.34
10.	9.53
13.	19.6
16.	26.9
20.	36.2
25.	50.9
30.	76.5
31.27 (max)	89.7

RMS % Error
12.37

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.73 (min)	0.195
4.	0.241
5.	0.631
6.	1.67
7.	3.91
8.	7.77
9.	13.2
10.	19.4
13.	33.0
16.	42.2
20.	78.5
20.31 (max)	80.5

RMS % Error
8.65

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

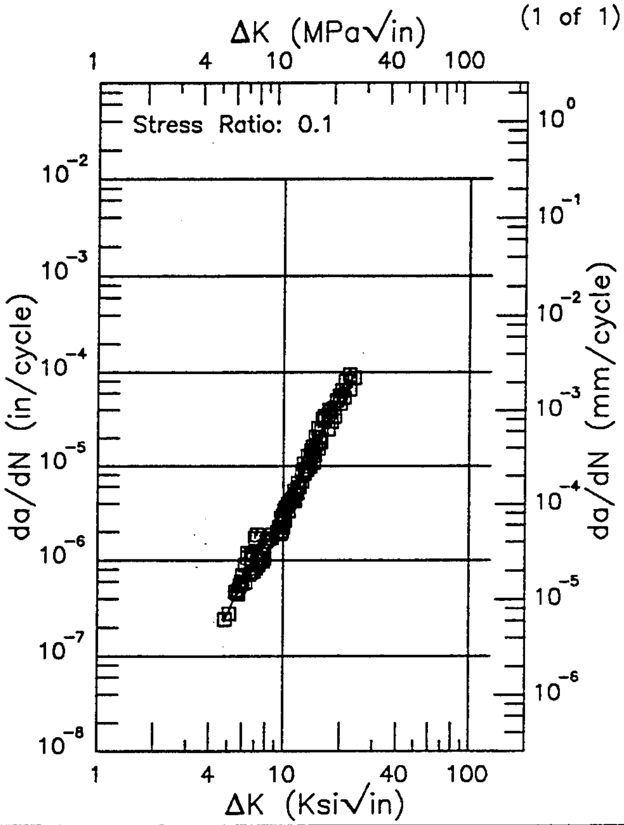
Figure 8.4.3.1.1

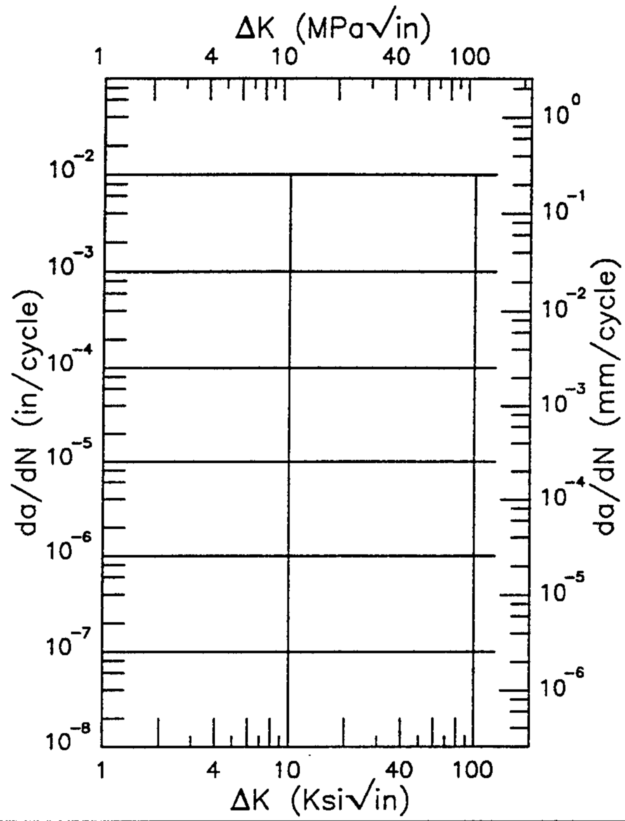
7010 R

Condition/Ht: T73651
Form: 2 in. Plate
Specimen Type: CT
Orientation: L–T
Frequency: 20 Hz
Environment: LAB AIR; RT

Yield Strength: 64.4 ksi
Ult. Strength: 73.7 ksi
Specimen Thk: 0.3 in.
Specimen Width: 1.5 in.
Ref: UD002

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.83 (min)	0.231
5.	0.278
6.	0.611
7.	0.997
8.	1.44
9.	2.01
10.	2.81
13.	8.78
16.	24.5
20.	55.4
23.58 (max)	91.6

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
19.57	0. .5 .8 1.25 2.

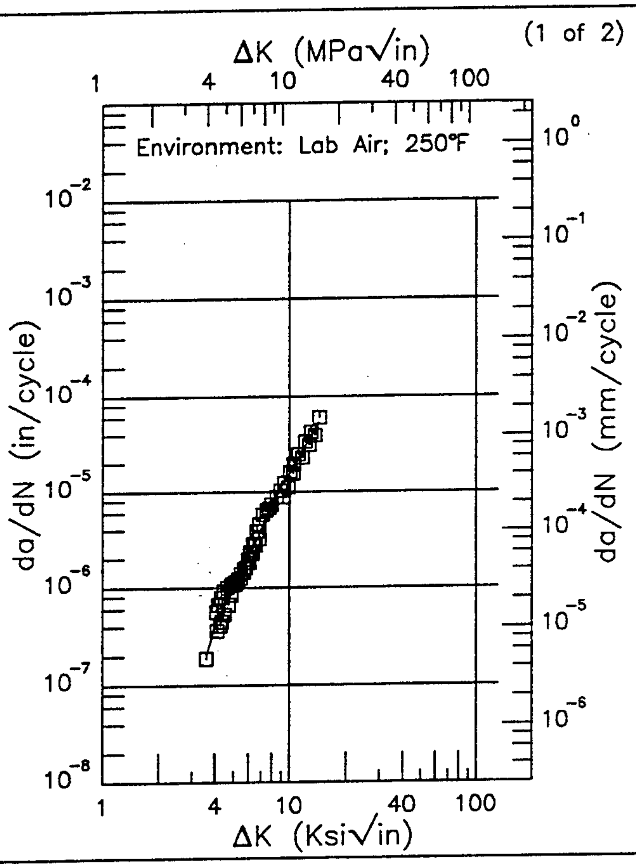
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.4.3.1.2

7010

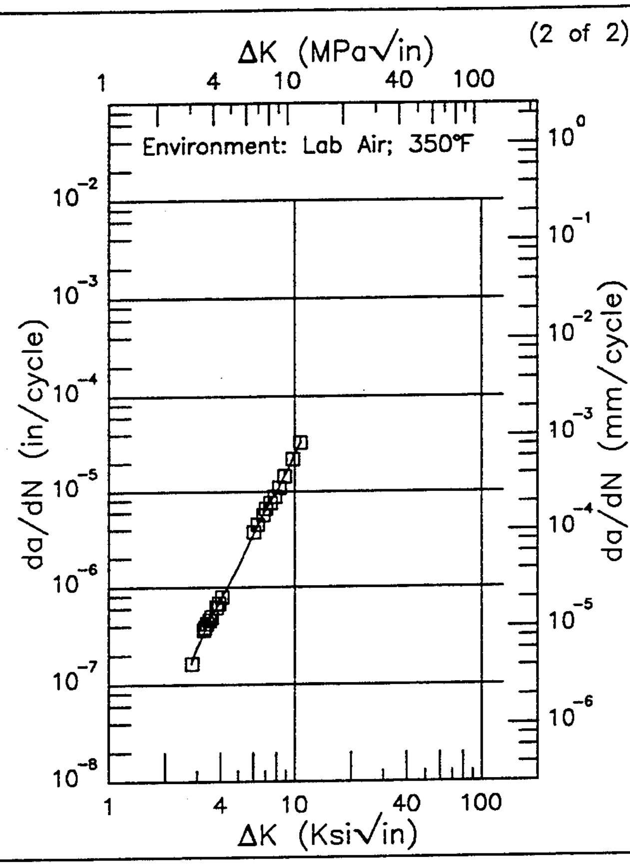
E

Condition/Ht: T73651	Yield Strength: 64.4 ksi
Form: 2 in. Plate	Ult. Strength: 73.7 ksi
Specimen Type: CT	Specimen Thk: 0.3 in.
Orientation: L–T	Specimen Width: 1.5 in.
Stress Ratio: 0.1	Ref: UD003
Frequency: 25 Hz	



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.59 (min)	0.207
4.	0.403
5.	1.07
6.	2.06
7.	3.95
8.	7.15
9.	11.3
10.	15.4
13.	38.0
14.35 (max)	53.7

RMS % Error	Life Prediction Ratio Summary
18.25	0. .5 .8 1.25 2.



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.80 (min)	0.163
3.	0.241
3.5	0.466
4.	0.728
5.	1.60
6.	3.53
7.	6.42
8.	9.83
9.	15.4
10.	24.7
10.67 (max)	32.0

RMS % Error	Life Prediction Ratio Summary
2.41	0. .5 .8 1.25 2.

Figure 8.4.3.1.3

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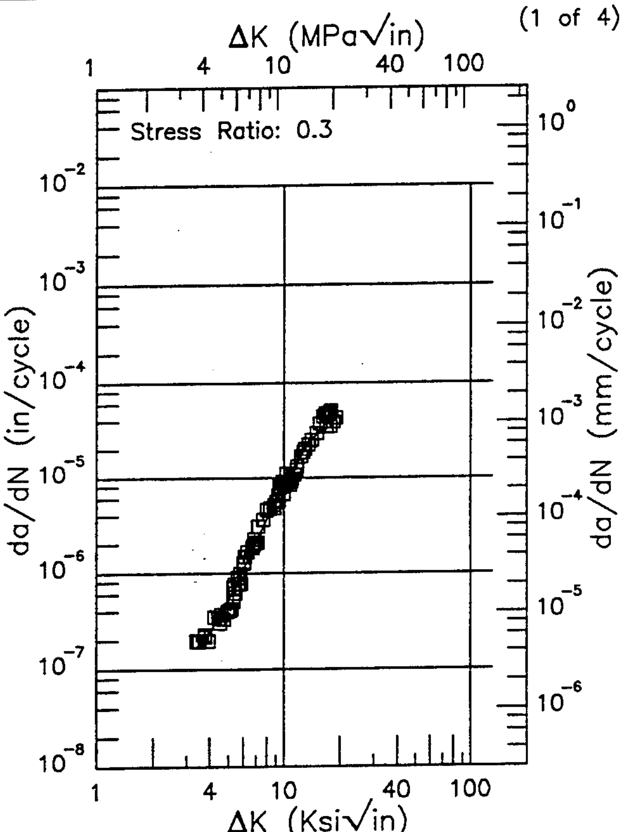
7010

R

Condition/Ht: T73651
Form: 2 in. Plate
Specimen Type: CT
Orientation: L–T
Frequency: 10 Hz
Environment: LAB AIR; RT

Yield Strength: 64.4 ksi
Ult. Strength: 73.7 ksi
Specimen Thk: 0.2 in.
Specimen Width: 1.4 in.
Ref: UD002

(1 of 4)



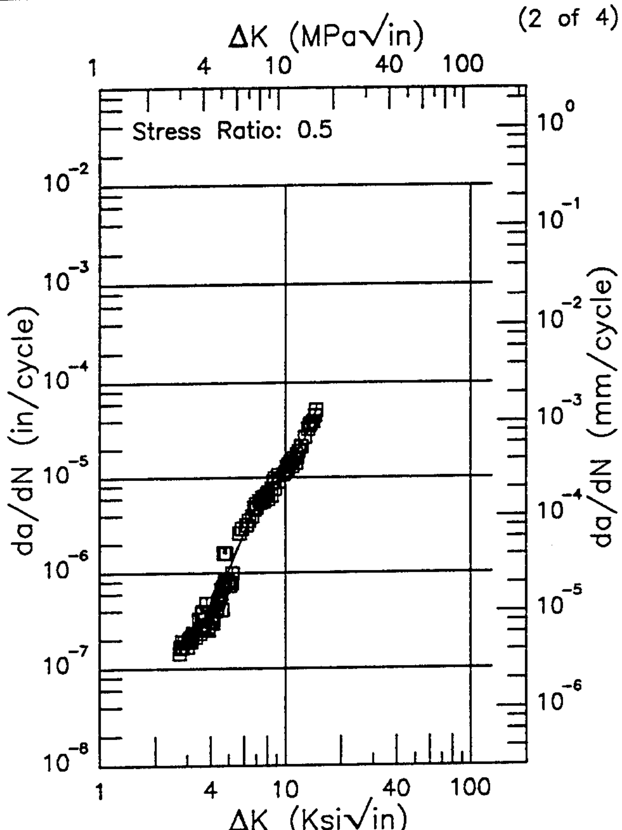
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.39 (min)	0.165
3.5	0.175
4.	0.244
5.	0.514
6.	1.07
7.	2.06
8.	3.64
9.	5.89
10.	8.82
13.	20.2
16.	34.1
18.83 (max)	51.5

RMS % Error 15.51

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 4)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.70 (min)	0.199
3.	0.184
3.5	0.234
4.	0.370
5.	1.06
6.	2.59
7.	4.78
8.	6.98
9.	9.19
10.	11.8
13.	27.8
14.67 (max)	51.4

RMS % Error 21.54

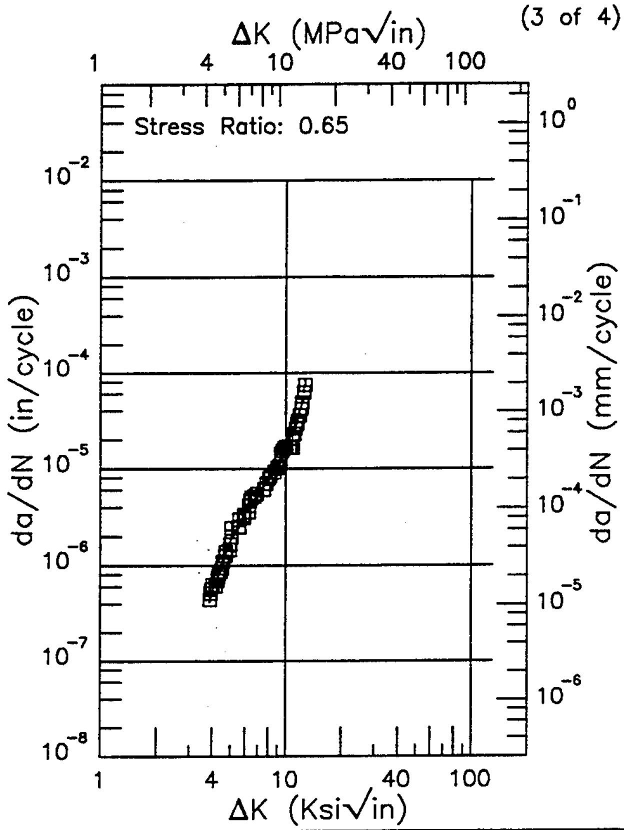
Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.4.3.1.4

Condition/Ht: T73651	Yield Strength: 64.4 ksi
Form: 2 in. Plate	Ult. Strength: 73.7 ksi
Specimen Type: CT	Specimen Thk: 0.2 in.
Orientation: L−T	Specimen Width: 1.4 in.
Frequency: 10 Hz	Ref: UD002
Environment: LAB AIR; RT	

(3 of 4)

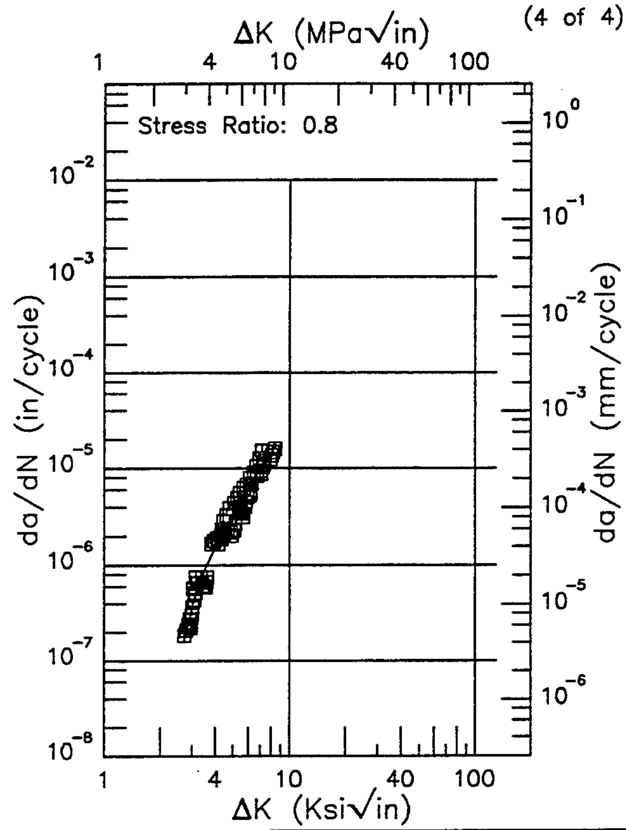


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.87 (min)	0.407
4.	0.520
5.	1.82
6.	3.47
7.	5.26
8.	7.44
9.	10.6
10.	15.6
12.66 (max)	57.1

RMS % Error: 12.54

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

(4 of 4)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.70 (min)	0.159
3.	0.361
3.5	0.879
4.	1.53
5.	3.17
6.	5.94
7.	10.1
8.	13.8
8.31 (max)	14.4

RMS % Error: 22.68

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

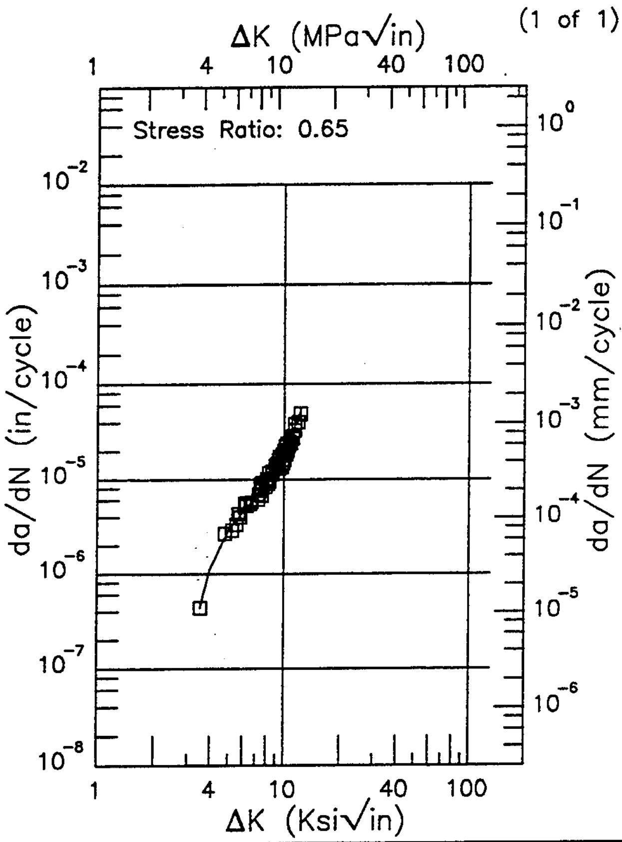
Figure 8.4.3.1.4 (Concluded)

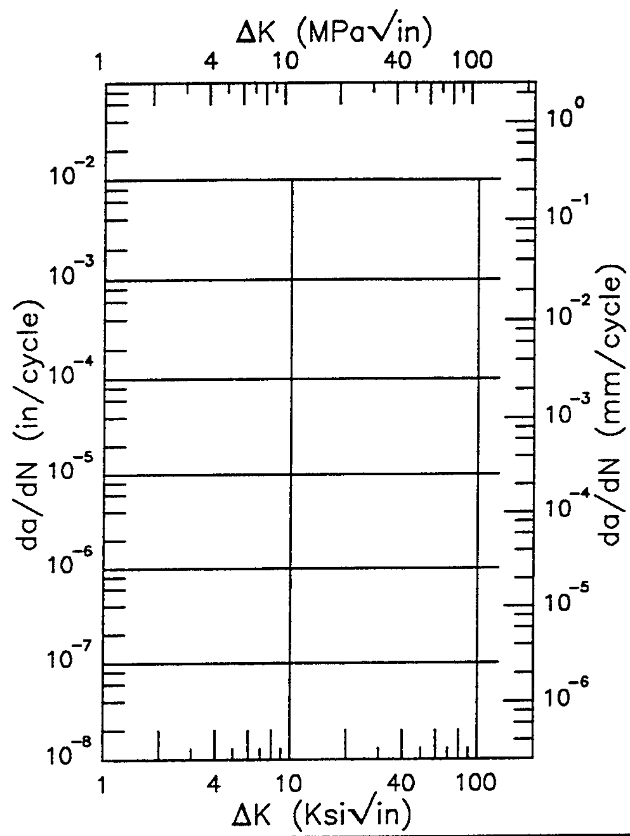
R 7010

Condition/Ht: T73651
Form: 2 in. Plate
Specimen Type: CT
Orientation: L–T
Frequency: 20 Hz
Environment: LAB AIR; RT

Yield Strength: 64.4 ksi
Ult. Strength: 73.7 ksi
Specimen Thk: 0.2 in.
Specimen Width: 1.4 in.
Ref: UD002

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.52 (min)	0.435
4.	1.12
5.	2.90
6.	4.47
7.	6.42
8.	9.29
9.	13.3
10.	18.6
12.20 (max)	50.7

ΔK (Ksi√in) da/dN (10^{-6}in/cycle)

RMS % Error
10.73

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

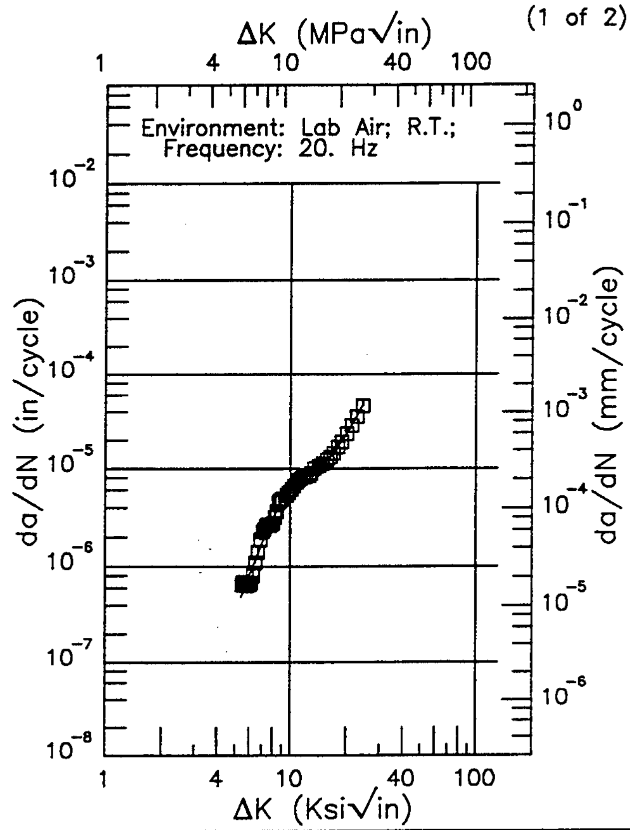
0. .5 .8 1.25 2.

Figure 8.4.3.1.5

Condition/Ht: T73651
Form: 2 in. Plate
Specimen Type: CT
Orientation: T–S
Stress Ratio: 0.1

Yield Strength: 62.9 ksi
Ult. Strength: 73.7 ksi
Specimen Thk: 0.3 in.
Specimen Width: 1.5 in.
Ref: UD003

(1 of 2)

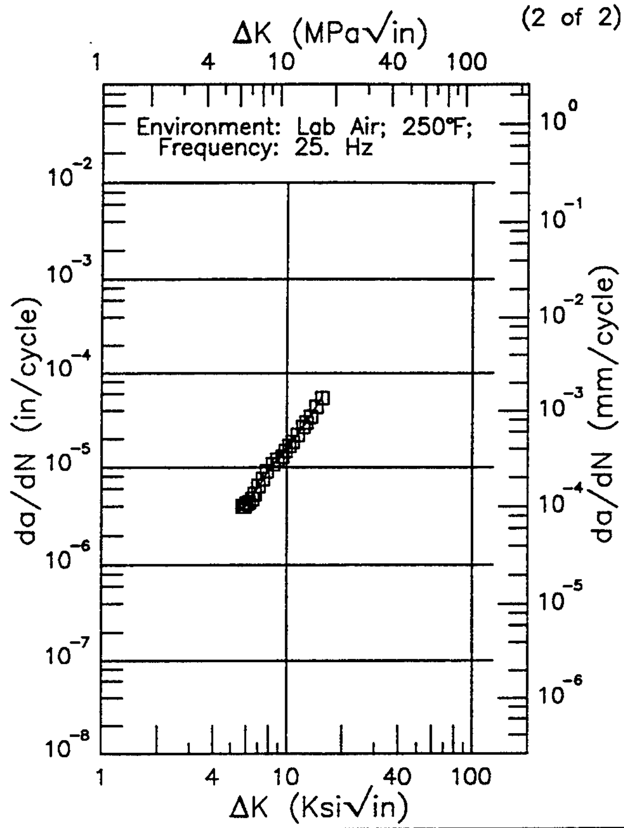


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.43 (min)	0.487
6.	0.813
7.	1.72
8.	3.05
9.	4.64
10.	6.19
13.	9.17
16.	12.7
20.	22.8
24.31 (max)	45.5

RMS % Error: 11.66

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.75 (min)	3.76
6.	4.04
7.	6.21
8.	9.44
9.	12.4
10.	15.3
13.	31.7
15.48 (max)	54.0

RMS % Error: 2.90

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

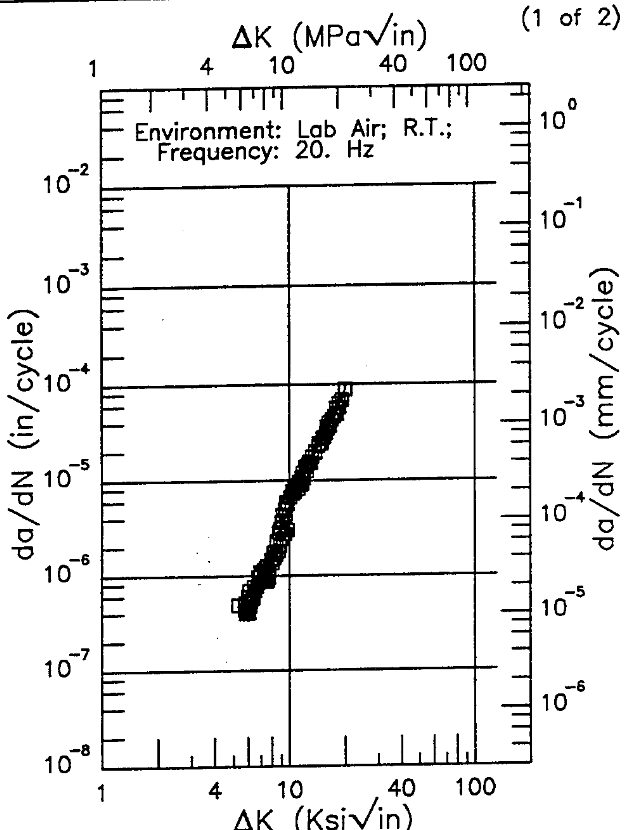
Figure 8.4.3.1.6

EF 7010

Condition/Ht: T73651
Form: 2 in. Plate
Specimen Type: CT
Orientation: T-L
Stress Ratio: 0.1

Yield Strength: 62.9 ksi
Ult. Strength: 73.7 ksi
Specimen Thk: 0.3 in.
Specimen Width: 1.5 in.
Ref: UD003

(1 of 2)



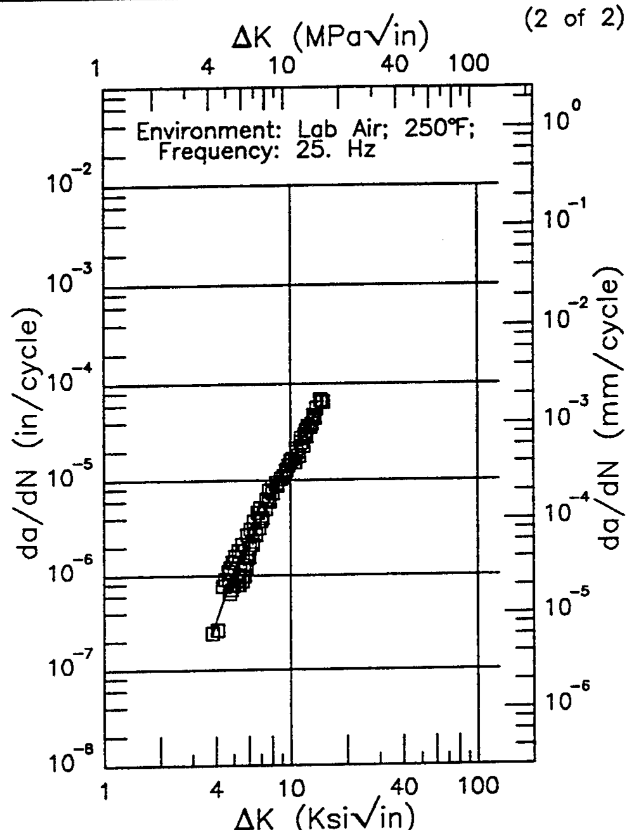
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.31 (min)	0.474
6.	0.505
7.	0.832
8.	1.62
9.	3.12
10.	5.51
13.	16.4
16.	34.0
20.	88.2
20.03 (max)	88.9

RMS % Error 15.63

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.83 (min)	0.230
4.	0.320
5.	1.06
6.	2.09
7.	3.91
8.	7.23
9.	11.7
10.	15.6
13.	41.7
14.89 (max)	65.5

RMS % Error 24.04

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.4.3.1.7

TABLE 8.4.3.3

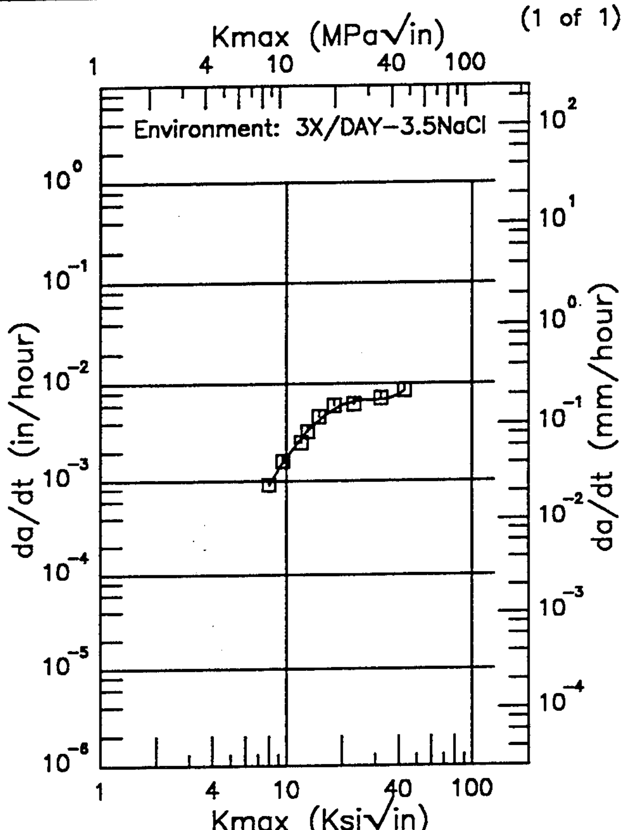
K_{Iscc} SUMMARY FOR ALUMINUM ALLOY 7010

Condition/ Heat Treat	Prod Form	Test Temp (°F)	Spec Or.	Yield Str (Ksi)	Envir.	Specimen			Prod Thk (in)	Crack (in)	K_Q (Ksi√in)	K_{Iscc} (Ksi√in)	Test Time (min)	Test Date	Reference
						Design	Width (in)	Thick (in)							
T73651	P	R.T.	T-L	63.2	3.5% NaCl	DCB	3.75	1	2	---	---	34.9	59700	1980	BL001
						DCB	3.75	1	2	---	---	30.1	59700	1980	BL001
			S-L	65	3.5% NaCl	CT	1.5	0.75	2	---	---	17	165720	1980	UD003

7039

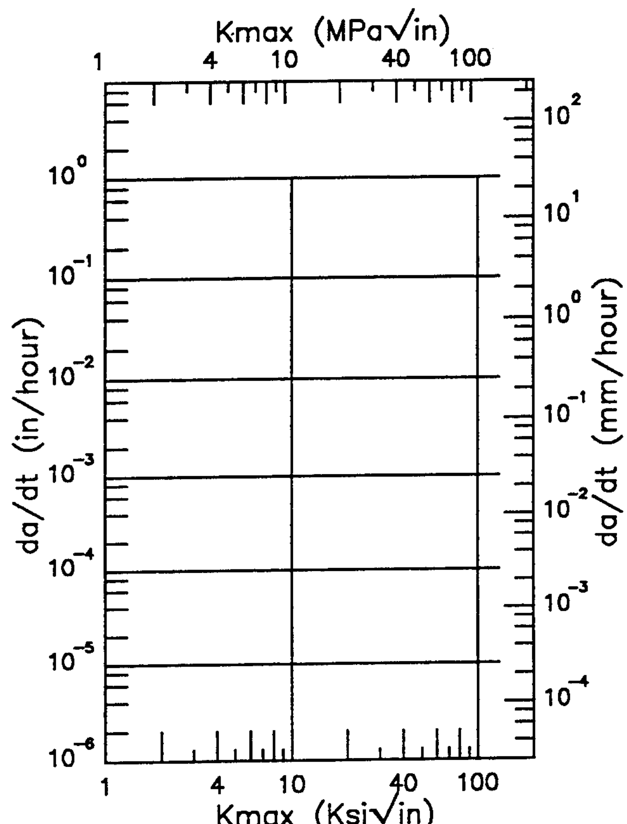
Condition/Ht: T64
Form: 1 in. Plate
Specimen Type: DCB
Orientation: S–L
Yield Strength:
Ult. Strength:

Specimen Thk: 1 in.
Specimen Width: 5 in.
Ao:
KIscc:
Ref: 84284



Kmax (Ksi√in)	da/dt (10^{-3}in/hour)
8.00 (min)	0.904
9.	1.32
10.	1.78
13.	3.32
16.	4.74
20.	6.09
25.	6.82
30.	6.87
35.	7.01
40.	7.71
43.00 (max)	8.53

RMS % Error
6.03



Kmax (Ksi√in)	da/dt (10^{-3}in/hour)

RMS % Error

Figure 8.5.3.2

TABLE 8.6.1.1

MEAN PLANE STRAIN FRACTURE TOUGHNESS FOR ALUMINUM 7000/8000 SERIES ALLOY 7049 AT ROOM TEMPERATURE

Product Form	Condition/Heat Treatment	K_{Ic} $(ksi\sqrt{in})$								
		Specimen Orientation								
		L-T			T-L			S-L		
		Mean K_{Ic}	Std Dev	n	Mean K_{Ic}	Std Dev	n	Mean K_{Ic}	Std Dev	n
Plate	T7351	---	---	---	26.1	1.7	4	23.8	0.6	4
Forging	T73	30.8	3.	29	21.9	2.5	20	21.3	2.5	39
	T7352	38.2	1.	2	---	---	---	19.5	2.8	6
Extrusion	T73	28.1	0.7	3	25.2	0.5	3	---	---	---
Extruded Bar	T73	33.2	2.7	3	22	0.5	3	---	---	---
	T73511-HIGH PURITY	33.9	0.1	2	26.	0.1	2	---	---	---
	T73511-LOW PURITY	23.8	0.3	2	18.1	0.1	2	---	---	---
	T73511-MEDIUM PURITY	29.7	0.8	2	22.1	0.5	2	---	---	---
	T76	32.7	1.7	3	20	0.3	3	---	---	---

TABLE 8.6.1.2.1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7049 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: 3.5% NaCl**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK *Level* (*Ksi√in*)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	-1	0.1			22.34	87.37		
		0.	1			52.67	244.42		
		0.	10			25.09	118.09	903.55	
		0.5	0.1		4.2	51.18	222.06		

TABLE 8.6.1.2.2

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7049 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: Dry Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK *Level* (*Ksi√in*)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73	FORGING	0.33	5.2			13.79			

TABLE 8.6.1.2.3

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7049 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: H.H.A.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle) ΔK Level (Ksi√in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73	FORGING	0.33	5.2			15.13			
T73511-HIGH PURITY	EXTRUSION	0.1	30			14.63			
T73511-LOW PURITY	EXTRUSION	0.1	30			12.07			
T73511-MEDIUM PURITY	EXTRUSION	0.1	30			13.98			

TABLE 8.6.1.2.4

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7049 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: L.H.A.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} *in/cycle*) ΔK *Level* (*Ksi√in*)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	-1	10			3.56	45.21		
		0.	10			2.59	27.78		
		0.5	10		0.76	14.6	106.66		
T7352	FORGING	0.08	6			4.54	33.63		
		0.08	6		0.63	6.25			
		0.08	6			4.09	31.47		
		0.3	6	0.09	1.05	11.93			
		0.5	6	0.14	1.55				

TABLE 8.6.1.2.5

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7049 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: Lab Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK Level (Ksi√in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73511-HIGH PURITY	EXTRUSION	0.1	30			7.98			
T73511-LOW PURITY	EXTRUSION	0.1	30			7.11			
T73511-MEDIUM PURITY	EXTRUSION	0.1	30			3.41			

TABLE 8.6.1.2.6

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7049 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: S.T.W.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) *ΔK Level* (*Ksi√in*)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7352	FORGING	0.08	0.1			27.19			

TABLE 8.6.1.2.7

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7049 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: Salt Fog**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK Level (Ksi√in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73	FORGING	0.33	5.2			22.16	129.99		

TABLE 8.6.1.2.8

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7049 AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: Dry Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK Level (Ksi√in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73	FORGING	0.33	18.3			24.82			

TABLE 8.6.1.2.9

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7049 AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: H.H.A.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) *ΔK Level* ($Ksi\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73	FORGING	0.33	18.3			39.66			

TABLE 8.6.1.2.10

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7049 AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: Lab Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK *Level (Ksi√in)*					
				2.5	5.0	10.0	20.0	50.0	100.0
T73511-HIGH PURITY	EXTRUSION	0.1	30			7.66			
T73511-LOW PURITY	EXTRUSION	0.1	30			9.32			
T73511-MEDIUM PURITY	EXTRUSION	0.1	30			8.49			

TABLE 8.6.1.2.11

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7049 AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: S.T.W.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK *Level* (*Ksi*$\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7352	FORGING	0.08	1			12.98			

TABLE 8.6.1.2.12

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7049 AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: Salt Fog**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK *Level* (*Ksi√in*)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73	FORGING	0.33	5.2			34.56			
		0.33	18.3			30.25			

TABLE 8.6.1.2.13

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7049 AT ROOM TEMPERATURE

ORIENTATION: S-T **ENVIRONMENT: Dry Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK Level (Ksi√in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73	FORGING	0.33	18.3			6.45			

TABLE 8.6.1.2.14

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7049 AT ROOM TEMPERATURE

ORIENTATION: S-T **ENVIRONMENT: H.H.A.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK *Level* ($Ksi\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73	FORGING	0.33	18.3			20.12			

TABLE 8.6.2.1

ALUMINUM 7049 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic} (Ksi * √in.)	K_{Ic} MEAN	K_{Ic} STAN DEV	DATE	REFER
T73	Forging	2.00	R.T.	L-S	73.1	1.500	0.750	CT	0.780	0.53	33.60	---	---	1972	84368
T73	Forging	6.00	R.T.	L-T	55.3	2.000	0.998	CT	0.971	0.54	25.60	30.8	3.0	1973	86213
		6.00			55.3	2.000	0.998	CT	1.003	0.64	28.00			1973	86213
		6.00			58.4	2.000	1.001	CT	1.021	0.76	32.30			1973	86213
		6.00			58.4	2.000	1.002	CT	0.993	0.90	35.10			1973	86213
		5.00			60.1	2.000	1.000	CT	1.040	0.47	25.90			1972	84368
		5.00			60.1	2.000	1.000	CT	1.060	0.52	27.40			1972	84368
		3.00			65.0	2.000	1.000	CT	1.042	0.67	33.70			1973	86213
		3.00			65.0	2.000	1.000	CT	1.011	0.56	30.70			1973	86213
		3.00			65.4	2.000	0.998	CT	1.097	0.58	31.40			1973	86213
		3.00			65.4	2.000	1.000	CT	1.100	0.57	31.40			1972	84368
		3.00			65.4	2.000	0.998	CT	1.088	0.54	30.30			1973	86213
		3.00			65.4	2.000	1.000	CT	1.090	0.54	30.30			1972	84368
		2.00			65.5	1.500	0.750	CT	0.800	0.64	33.20			1972	84368
		3.00			65.5	1.500	0.750	CT	0.790	0.69	34.30			1972	84368
		1.00			67.0	1.000	0.500	CT	0.470	0.45	28.30			1972	84368
		2.00			67.0	1.000	0.500	CT	0.480	0.46	28.70			1972	84368
		1.75			67.0	1.000	0.498	CT	0.480	0.46	28.70			1973	86213
		1.75			67.0	1.000	0.498	CT	0.472	0.45	28.30			1973	86213
		---			68.0	3.500	0.996	CT	1.802	0.43	28.20			1972	84306
		2.00			68.8	2.000	1.000	CT	1.036	0.42	28.30			1973	86213
		7.10			70.6	2.000	0.998	CT	1.049	0.40	28.20			1973	86213
		4.00			72.8	1.990	0.998	CT	1.090	0.47	31.50			1973	86213

TABLE 8.6.2.1 (CONTINUED)

ALUMINUM 7049 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	$2.5 * (K_{Ic}/TYS)^2$ (in.)	K_{Ic} K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV	DATE	REFER
T73 Cont'd	Forging Cont'd	4.00	R.T. Cont'd	L-T Cont'd	72.8	2.000	1.000	CT	1.080	0.55	34.20	Cont'd	Cont'd	1972	84368
		4.00			72.8	1.990	0.998	CT	1.084	0.55	34.20			1973	86213
		4.00			72.8	2.000	1.000	CT	1.090	0.47	31.50			1972	84368
		7.00			73.4	2.000	1.000	CT	1.095	0.58	35.40			1973	86213
		1.00			74.4	1.000	0.500	CT	0.480	0.42	30.60			1972	84368
		2.00			74.4	1.000	0.500	CT	0.490	0.43	30.80			1972	84368
		2.00			75.9	1.500	0.750	CT	0.830	0.60	37.20			1972	84368
T73	Forging	6.00	R.T.	T-L	55.5	2.000	1.000	CT	0.967	0.29	18.90	21.9	2.5	1973	86213
		6.00			55.5	2.000	1.000	CT	0.994	0.29	18.80			1973	86213
		6.00			57.8	2.000	1.001	CT	1.023	0.44	24.20			1973	86213
		6.00			57.8	2.000	1.002	CT	1.016	0.40	23.00			1973	86213
		5.00			58.1	2.000	1.000	CT	1.050	0.25	18.40			1972	84368
		3.00			62.2	2.000	1.000	CT	1.023	0.44	26.20			1973	86213
		3.00			62.2	2.000	1.000	CT	1.027	0.50	27.90			1973	86213
		3.00			63.9	2.000	0.999	CT	1.085	0.25	20.40			1973	86213
		3.00			63.9	2.000	1.000	CT	0.997	0.28	21.20			1973	86213
		3.00			66.2	1.990	0.998	CT	1.101	0.31	23.40			1973	86213
		3.00			66.2	2.000	0.998	CT	1.106	0.30	23.00			1973	86213
		3.00			66.2	2.000	1.000	CT	1.110	0.30	23.00			1972	84368
		3.00			66.2	2.000	1.000	CT	1.100	0.31	23.40			1972	84368
		2.00			67.0	2.000	0.999	CT	1.015	0.19	18.70			1973	86213
		4.00			68.5	2.000	0.998	CT	1.062	0.25	21.70			1973	86213

TABLE 8.6.2.1 (CONTINUED)

ALUMINUM 7049 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_Q/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_Q (Ksi * $\sqrt{in.}$)	K_Q MEAN	STAN DEV		
T73 Cont'd	Forging Cont'd	4.00	R.T. Cont'd	T-L Cont'd	68.5	2.000	0.998	CT	1.091	0.22	20.20	Cont'd	Cont'd	1973	86213
		4.00			68.5	2.000	1.000	CT	1.060	0.25	21.70			1972	84368
		4.00			68.5	2.000	1.000	CT	1.090	0.22	20.20			1972	84368
		7.10			70.6	2.000	0.999	CT	1.093	0.26	22.60			1973	86213
		7.00			73.4	2.000	0.998	CT	1.104	0.20	20.70			1973	86213
T73	Forging	6.00	R.T.	S-L	55.1	2.000	1.000	CT	1.025	0.22	16.20	21.3	2.5	1973	86213
		6.00			55.1	2.000	0.999	CT	1.021	0.22	16.30			1973	86213
		6.00			56.9	2.000	1.000	CT	1.035	0.36	21.70			1973	86213
		6.00			56.9	2.000	1.000	CT	1.043	0.40	22.70			1973	86213
		5.00			59.1	2.000	1.000	CT	1.050	0.28	19.80			1972	84368
		5.00			59.1	2.000	1.000	CT	1.050	0.28	19.70			1972	84368
		3.00			59.8	2.000	1.001	CT	1.008	0.20	17.10			1973	86213
		1.00			61.8	1.000	0.500	CT	0.500	0.37	24.00			1972	84368
		1.00			61.8	1.000	0.500	CT	0.510	0.36	23.70			1972	84368
		3.00			62.3	2.000	1.000	CT	1.060	0.33	22.70			1972	84368
		3.00			62.3	2.000	0.996	CT	1.065	0.33	22.70			1973	86213
		3.00			62.3	2.000	1.000	CT	1.060	0.32	22.30			1972	84368
		3.00			62.3	2.000	0.998	CT	1.059	0.32	22.30			1973	86213
		3.00			64.5	2.000	1.000	CT	1.065	0.31	22.80			1973	86213
		3.00			64.5	2.000	0.999	CT	1.062	0.36	24.60			1973	86213
		3.00			64.7	1.500	0.750	CT	0.770	0.32	23.00			1972	84368
		3.00			64.7	1.500	0.750	CT	0.770	0.41	26.20			1972	84368

TABLE 8.6.2.1 (CONTINUED)

ALUMINUM 7049 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_Q/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_Q (Ksi • $\sqrt{in.}$)	K_Q MEAN	STAN DEV		
T73 Cont'd	Forging Cont'd	3.00	R.T. Cont'd	S-L Cont'd	64.9	1.500	0.750	CT	0.820	0.38	25.40	Cont'd	Cont'd	1972	84368
		3.00			64.9	1.500	0.750	CT	0.810	0.37	25.10			1972	84368
		2.00			65.4	2.000	0.999	CT	1.052	0.14	15.60			1973	86213
		2.00			65.4	2.000	0.998	CT	1.089	0.18	17.60			1973	86213
		1.75			66.1	1.000	0.498	CT	0.486	0.21	19.10			1973	86213
		2.00			66.1	1.000	0.500	CT	0.490	0.21	19.10			1972	84368
		2.00			66.1	1.000	0.500	CT	0.520	0.22	19.60			1972	84368
		1.75			66.1	1.000	0.498	CT	0.520	0.22	19.60			1973	86213
		3.00			66.3	1.500	0.750	CT	0.790	0.27	22.40			1972	84368
		3.00			66.3	1.500	0.750	CT	0.790	0.26	21.80			1972	84368
		2.00			67.1	1.000	0.500	CT	0.460	0.31	23.50			1972	84368
		2.00			67.1	1.000	0.500	CT	0.480	0.27	21.90			1972	84368
		4.00			67.5	2.000	1.000	CT	1.060	0.24	20.80			1972	84368
		4.00			67.5	2.000	0.998	CT	1.058	0.24	20.80			1973	86213
		4.00			67.5	2.000	1.000	CT	1.050	0.24	20.70			1972	84368
		4.00			67.5	2.000	0.998	CT	1.054	0.24	20.70			1973	86213
		1.00			67.6	1.500	0.750	CT	0.800	0.29	23.10			1972	84368
		2.00			67.6	1.500	0.750	CT	0.800	0.30	23.40			1972	84368
		---			68.9	1.000	0.500	CT	0.500	0.22	20.50			1972	83242
		---			68.9	1.000	0.500	CT	0.500	0.24	21.20			1972	83242
		---			68.9	1.000	0.500	CT	0.500	0.22	20.50			1972	83242
		---			68.9	1.000	0.500	CT	0.500	0.24	21.20			1972	83242

TABLE 8.6.2.1 (CONTINUED)

ALUMINUM 7049 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_Q/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_Q (Ksi * $\sqrt{in.}$)	K_Q MEAN	STAN DEV		
T73	Forging	5.00	82	L-T	60.1	2.000	1.000	CT	1.039	0.46	25.90	30.8	4.0	1973	86213
		5.00			60.1	2.000	1.000	CT	1.062	0.52	27.40			1973	86213
		5.00			60.6	1.990	1.000	CT	0.995	0.80	34.30			1973	86213
		2.70			65.5	1.500	0.747	CT	0.802	0.64	33.20			1973	86213
		2.70			65.5	1.500	0.747	CT	0.795	0.69	34.30			1973	86213
		4.20			65.7	1.500	0.748	CT	0.793	0.49	29.10			1973	86213
		4.20			65.7	1.500	0.748	CT	0.785	0.49	29.20			1973	86213
		2.00			68.8	2.000	1.000	CT	1.081	0.29	23.50			1973	86213
		2.50			73.1	1.500	0.749	CT	0.782	0.53	33.60			1973	86213
		1.50			74.4	1.000	0.499	CT	0.481	0.42	30.60			1973	86213
		1.50			74.4	0.990	0.499	CT	0.491	0.43	30.80			1973	86213
		2.50			75.9	1.500	0.750	CT	0.832	0.60	37.20			1973	86213
T73	Forging	5.00	82	T-L	58.1	2.000	1.000	CT	1.047	0.25	18.40	23.5	4.0	1973	86213
		5.00			61.3	1.990	1.000	CT	0.945	0.49	27.10			1973	86213
		5.00			61.3	1.990	1.000	CT	0.950	0.52	28.00			1973	86213
		2.00			67.0	2.000	1.000	CT	1.082	0.27	22.00			1973	86213
		2.00			67.0	2.000	0.999	CT	1.075	0.27	21.90			1973	86213
T73	Forging	5.00	82	S-L	59.1	2.000	1.000	CT	1.051	0.28	19.80	21.6	3.0	1973	86213
		5.00			59.1	2.000	1.000	CT	1.048	0.28	19.70			1973	86213
		5.00			60.1	1.990	1.000	CT	0.956	0.23	18.20			1973	86213
		5.00			60.1	1.990	1.000	CT	0.980	0.22	17.90			1973	86213
		1.00			62.6	1.000	0.501	CT	0.513	0.36	23.70			1973	86213
		1.00			62.6	1.000	0.499	CT	0.499	0.37	24.00			1973	86213

TABLE 8.6.2.1 (CONTINUED)

ALUMINUM 7049 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	2.5 * $(K_Q/TYS)^2$ (in.)	K_{Ic} K_Q (Ksi * $\sqrt{in.}$)	K_{Ic} K_Q MEAN	K_{Ic} STAN DEV	DATE	REFER
T73 Cont'd	Forging Cont'd	2.70	82 Cont'd	S-L Cont'd	64.7	1.500	0.748	CT	0.774	0.32	23.00	Cont'd	Cont'd	1973	86213
		2.70			64.7	1.500	0.748	CT	0.773	0.41	26.20			1973	86213
		2.50			64.9	1.500	0.748	CT	0.820	0.38	25.40			1973	86213
		2.50			64.9	1.500	0.748	CT	0.813	0.37	25.10			1973	86213
		2.00			65.4	1.620	0.751	CT	0.779	0.13	15.00			1973	86213
		1.50			67.1	0.990	0.498	CT	0.480	0.27	21.90			1973	86213
		1.50			67.1	0.990	0.499	CT	0.464	0.31	23.50			1973	86213
		1.50			67.6	1.500	0.750	CT	0.798	0.29	23.10			1973	86213
		1.50			67.6	1.500	0.750	CT	0.799	0.30	23.40			1973	86213
		2.50			67.8	1.500	0.751	CT	0.794	0.26	21.80			1973	86213
		2.50			67.8	1.500	0.749	CT	0.789	0.27	22.40			1973	86213
		4.20			69.7	1.500	0.748	CT	0.794	0.18	18.70			1973	86213
		4.20			69.7	1.500	0.747	CT	0.782	0.17	18.40			1973	86213
T73	Forging	6.00	84	L-T	59.5	2.000	1.000	CT	1.010	0.66	30.60	32.1	2.1	1973	86213
		6.00			59.5	2.000	1.000	CT	1.015	0.79	33.50			1973	86213
T73	Forging	6.00	84	T-L	57.6	2.000	1.000	CT	1.013	0.36	22.00	21.2	1.2	1973	86213
		6.00			57.6	2.000	1.000	CT	0.988	0.31	20.30			1973	86213
T73	Forging	6.00	84	S-L	58.7	2.000	1.000	CT	1.024	0.28	19.70	21.7	1.7	1973	86213
		6.00			58.7	2.000	1.000	CT	1.028	0.28	19.60			1973	86213
		0.75			68.2	1.000	0.500	CT	0.516	0.30	23.60			1973	86213
		0.75			68.2	1.000	0.500	CT	0.515	0.29	23.20			1973	86213
		0.75			71.5	1.000	0.494	CT	0.539	0.25	22.60			1973	86213
		0.75			71.5	1.000	0.475	CT	0.535	0.22	21.30			1973	86213

TABLE 8.6.2.1 (CONTINUED)

ALUMINUM 7049 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV	DATE	REFER
T73	Forging	1.00	86	L-S	74.9	2.000	0.998	CT	1.059	0.36	28.50	---	---	1973	86213
T73	Extrusion	3.00	-65	L-T	78.9	2.000	1.000	CT	1.000	0.22	23.60	24.7	1.0	1972	83061
		3.00			78.9	2.000	1.000	CT	1.000	0.26	25.40			1972	83061
		3.00			78.9	2.000	1.000	CT	1.000	0.26	25.20			1972	83061
T73	Extrusion	3.00	-65	T-L	77.5	2.000	1.000	CT	1.000	0.22	22.80	23.3	0.6	1972	83061
		3.00			77.5	2.000	1.000	CT	1.000	0.23	23.70			1972	83061
T73	Extrusion	3.00	-65	S-T	72.7	---	---	CT	---	0.21	21.10	22.2	1.6	1972	83061
		3.00			72.7	---	---	CT	---	0.26	23.30			1972	83061
T73	Extrusion	3.00	0	L-T	76.8	2.000	1.000	CT	1.000	0.25	24.50	25.9	1.2	1972	83061
		3.00			76.8	2.000	1.000	CT	1.000	0.30	26.80			1972	83061
		3.00			76.8	2.000	1.000	CT	1.000	0.29	26.30			1972	83061
T73	Extrusion	3.00	0	T-L	76.3	2.000	1.000	CT	1.000	0.27	24.90	24.1	0.7	1972	83061
		3.00			76.3	2.000	1.000	CT	1.000	0.24	23.80			1972	83061
		3.00			76.3	2.000	1.000	CT	1.000	0.24	23.60			1972	83061
T73	Extrusion	3.00	0	S-T	71.2	---	---	CT	---	0.19	19.80	21.2	1.9	1972	83061
		3.00			71.2	---	---	CT	---	0.25	22.50			1972	83061
T73	Extrusion	3.00	R.T.	L-T	74.8	2.000	1.000	CT	1.000	0.33	27.30	28.1	0.7	1972	83061
		3.00			74.8	2.000	1.000	CT	1.000	0.36	28.30			1972	83061
		3.00			74.8	2.000	1.000	CT	1.000	0.36	28.60			1972	83061
T73	Extrusion	3.00	R.T.	T-L	75.0	2.000	1.000	CT	1.000	0.29	25.70	25.2	0.5	1972	83061
		3.00			75.0	2.000	1.000	CT	1.000	0.28	25.30			1972	83061
		3.00			75.0	2.000	1.000	CT	1.000	0.27	24.70			1972	83061

TABLE 8.6.2.1 (CONTINUED)

ALUMINUM 7049 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	$2.5 * (K_{Ic}/TYS)^2$ (in.)	K_{Ic} K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} K_{Ic} MEAN	K_{Ic} STAN DEV	DATE	REFER
T73	Extrusion	3.00	R.T.	S-T	68.6	---	---	CT	---	0.21	20.10	20.3	0.2	1972	83061
		3.00			68.6	---	---	CT	---	0.22	20.50			1972	83061
		3.00			68.6	---	---	CT	---	0.22	20.30			1972	83061
T73	Extruded Bar	3.50	-65	L-T	71.7	2.000	1.000	CT	1.000	0.52	32.60	31.4	1.7	1972	83061
		3.50			71.7	2.000	1.000	CT	1.000	0.42	29.40			1972	83061
		3.50			71.7	2.000	1.000	CT	1.000	0.51	32.20			1972	83061
T73	Extruded Bar	3.50	-65	T-L	70.3	2.000	1.000	CT	1.000	0.21	20.20	20.0	1.0	1972	83061
		3.50			70.3	2.000	1.000	CT	1.000	0.22	20.80			1972	83061
		3.50			70.3	2.000	1.000	CT	1.000	0.18	18.90			1972	83061
T73	Extruded Bar	3.50	-65	S-T	67.2	2.000	1.000	CT	1.000	0.24	20.70	---	---	1972	83061
T73	Extruded Bar	3.50	0	L-T	77.3	2.000	1.000	CT	1.000	0.50	34.70	34.2	0.5	1972	83061
		3.50			77.3	2.000	1.000	CT	1.000	0.48	33.80			1972	83061
		3.50			77.3	2.000	1.000	CT	1.000	0.49	34.20			1972	83061
T73	Extruded Bar	3.50	0	T-L	69.6	2.000	1.000	CT	1.000	0.22	20.60	20.6	0.3	1972	83061
		3.50			69.6	2.000	1.000	CT	1.000	0.22	20.40			1972	83061
		3.50			69.6	2.000	1.000	CT	1.000	0.23	20.90			1972	83061
T73	Extruded Bar	3.50	0	S-T	66.5	2.000	1.000	CT	1.000	0.27	21.80	21.5	0.4	1972	83061
		3.50			66.5	2.000	1.000	CT	1.000	0.25	21.00			1972	83061
		3.50			66.5	2.000	1.000	CT	1.000	0.26	21.60			1972	83061
T73	Extruded Bar	3.50	R.T.	L-T	73.4	2.000	1.000	CT	1.000	0.57	35.10	33.2	2.7	1972	83061
		3.50			73.4	2.000	1.000	CT	1.000	0.42	30.10			1972	83061
		3.25			73.4	2.000	1.000	CT	1.000	0.55	34.40			1972	83061

TABLE 8.6.2.1 (CONTINUED)

ALUMINUM 7049 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	$2.5 \cdot (K_{Ic}/TYS)^2$ (in.)	K_{Ic} (Ksi $\cdot \sqrt{in.}$)	K_{Ic} MEAN	STAN DEV	DATE	REFER
T73	Extruded Bar	3.50	R.T.	T-L	67.7	2.000	1.000	CT	1.000	0.25	21.50	22.0	0.5	1972	83061
		3.50			67.7	2.000	1.000	CT	1.000	0.27	22.40			1972	83061
		3.50			67.7	2.000	1.000	CT	1.000	0.27	22.10			1972	83061
T73	Extruded Bar	3.50	R.T.	S-T	65.4	2.000	1.000	CT	1.000	0.30	22.50	23.0	0.7	1972	83061
		3.50			65.4	2.000	1.000	CT	1.000	0.30	22.60			1972	83061
		3.50			65.4	2.000	1.000	CT	1.000	0.33	23.80			1972	83061
T7351	Plate	4.00	R.T.	T-L	53.6	1.500	0.750	CT	0.722	0.51	24.10	26.1	1.7	1973	86213
		4.00			53.6	1.490	0.748	CT	0.725	0.56	25.40			1973	86213
		2.00			59.4	1.500	0.750	CT	0.750	0.52	27.20			1973	86213
		2.00			59.4	1.500	0.748	CT	0.751	0.55	27.80			1973	86213
T7351	Plate	4.00	R.T.	S-L	49.3	1.490	0.750	CT	0.700	0.55	23.20	23.8	0.6	1973	86213
		4.00			49.3	1.500	0.750	CT	0.730	0.59	24.00			1973	86213
		2.00			57.6	1.490	0.750	CT	0.715	0.42	23.50			1973	86213
		2.00			57.6	1.490	0.750	CT	0.704	0.45	24.50			1973	86213
T73511-HIGH/ PURITY	Extruded Bar	1.50	R.T.	L-T	76.7	2.500	1.250	CT	---	0.49	34.00	33.9	0.1	1980	WA001
		1.50			76.7	2.500	1.250	CT	---	0.49	33.80			1980	WA001
T73511-HIGH/ PURITY	Extruded Bar	1.50	R.T.	T-L	70.3	2.500	1.250	CT	---	0.34	26.00	26.0	0.1	1980	WA001
		1.50			70.3	2.500	1.250	CT	---	0.34	25.90			1980	WA001
T73511-LOW/ PURITY	Extruded Bar	1.50	R.T.	L-T	73.1	2.500	1.250	CT	---	0.27	24.00	23.8	0.3	1980	WA001
		1.50			73.1	2.500	1.250	CT	---	0.26	23.60			1980	WA001

TABLE 8.6.2.1 (CONTINUED)

ALUMINUM 7049 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	$2.5*(K_Q/TYS)^2$ (in.)	K_{Ic}: K_Q (Ksi * $\sqrt{in.}$)	K_{Ic}: K_Q MEAN	K_{Ic}: STAN DEV	DATE	REFER
T73511-LOW/ PURITY	Extruded Bar	1.50	R.T.	T-L	68.6	2.500	1.250	CT	---	0.18	18.20	18.1	0.1	1980	WA001
		1.50			68.6	2.500	1.250	CT	---	0.17	18.00			1980	WA001
T73511-MEDIUM/ PURITY	Extruded Bar	1.50	R.T.	L-T	75.4	2.500	1.250	CT	---	0.40	30.30	29.7	0.8	1980	WA001
		1.50			75.4	2.500	1.250	CT	---	0.37	29.10			1980	WA001
T73511-MEDIUM/ PURITY	Extruded Bar	1.50	R.T.	T-L	69.2	2.500	1.250	CT	---	0.25	21.70	22.1	0.5	1980	WA001
		1.50			69.2	2.500	1.250	CT	---	0.26	22.40			1980	WA001
T7352	Forging	7.10	R.T.	L-T	65.0	3.990	1.998	CT	1.882	0.83	37.50	38.2	1.0	1973	85836
		7.10			65.0	3.990	1.997	CT	1.900	0.90	38.90			1973	85836
T7352	Forging	6.00	R.T.	S-L	50.5	2.000	0.999	CT	0.931	0.36	19.10	19.5	2.8	1973	86213
		6.00			50.5	2.000	0.999	CT	0.954	0.24	15.80			1973	86213
		3.00			58.6	2.000	0.999	CT	1.003	0.22	17.30			1973	86213
		7.10			62.0	2.500	1.252	CT	1.292	0.36	23.40			1973	85836
		3.00			63.8	2.000	1.000	CT	1.065	0.29	21.90			1973	86213
		3.00			63.8	2.000	1.000	CT	1.039	0.24	19.70			1973	86213
T76	Extruded Bar	3.50	-65	L-T	80.0	2.000	1.000	CT	1.000	0.36	30.30	30.4	0.1	1972	83061
		3.50			80.0	2.000	1.000	CT	1.000	0.36	30.30			1972	83061
		3.50			80.0	2.000	1.000	CT	1.000	0.36	30.50			1972	83061
T76	Extruded Bar	3.50	-65	T-L	72.9	2.000	1.000	CT	1.000	0.17	19.00	19.2	0.2	1972	83061
		3.50			72.9	2.000	1.000	CT	1.000	0.18	19.30			1972	83061

TABLE 8.6.2.1 (CONCLUDED)

ALUMINUM 7049 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV		
T76	Extruded Bar	3.50	-65	S-T	67.5	2.000	1.000	CT	1.000	0.21	19.10	19.4	0.4	1972	83061
		3.50			67.5	2.000	1.000	CT	1.000	0.22	19.90			1972	83061
		3.50			67.5	2.000	1.000	CT	1.000	0.21	19.30			1972	83061
T76	Extruded Bar	3.50	0	L-T	77.1	2.000	1.000	CT	1.000	0.49	34.10	33.1	0.9	1972	83061
		3.50			77.1	2.000	1.000	CT	1.000	0.45	32.90			1972	83061
		3.50			77.1	2.000	1.000	CT	1.000	0.44	32.30			1972	83061
T76	Extruded Bar	3.50	0	T-L	70.6	2.000	1.000	CT	1.000	0.22	20.80	20.2	0.8	1972	83061
		3.50			70.6	2.000	1.000	CT	1.000	0.19	19.60			1972	83061
T76	Extruded Bar	3.50	0	S-T	66.6	2.000	1.000	CT	1.000	0.25	21.20	20.8	0.4	1972	83061
		3.50			66.6	2.000	1.000	CT	1.000	0.24	20.70			1972	83061
		3.50			66.6	2.000	1.000	CT	1.000	0.24	20.50			1972	83061
T76	Extruded Bar	3.25	R.T.	L-T	75.5	2.000	1.000	CT	1.000	0.51	34.20	32.7	1.7	1972	83061
		3.50			75.5	2.000	1.000	CT	1.000	0.42	30.80			1972	83061
		3.50			75.5	2.000	1.000	CT	1.000	0.48	33.10			1972	83061
T76	Extruded Bar	3.50	R.T.	T-L	68.6	2.000	1.000	CT	1.000	0.21	20.00	20.0	0.3	1972	83061
		3.50			68.6	2.000	1.000	CT	1.000	0.21	19.70			1972	83061
		3.50			68.6	2.000	1.000	CT	1.000	0.22	20.30			1972	83061
T76	Extruded Bar	3.50	R.T.	S-T	65.8	2.000	1.000	CT	1.000	0.25	20.90	---	---	1972	83061

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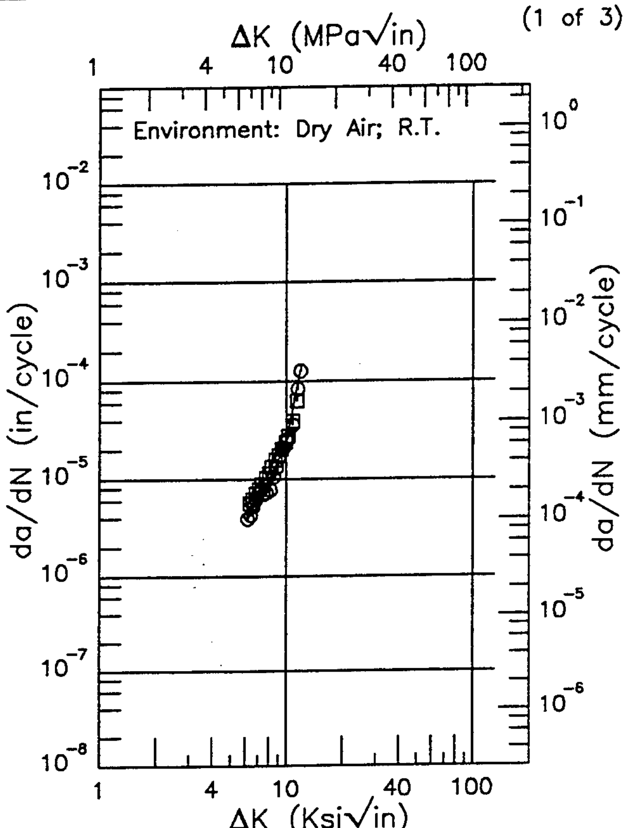
E 7049

Condition/Ht: T73
Form: 4 – 5 in. Forging
Specimen Type: CT
Orientation: T–L
Stress Ratio: 0.33
Frequency: 18.3 Hz

Yield Strength: 58.1 – 68.5 ksi
Ult. Strength: 68.4 – 76.4 ksi
Specimen Thk: 1.495 – 1.502 in.
Specimen Width: 3.8 in.
Ref: 86842

(1 of 3)



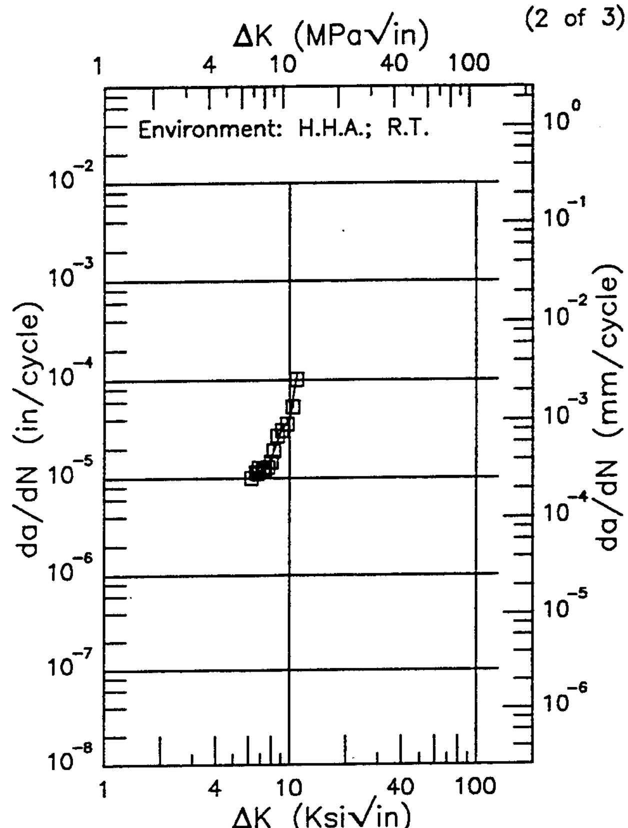
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.17 (min)	3.84
7.	7.02
8.	9.61
9.	15.7
10.	24.8
11.88 (max)	130.

RMS % Error 14.70

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.21 (min)	9.93
7.	11.9
8.	16.1
9.	30.4
10.	39.7
10.89 (max)	104.

RMS % Error 7.78

Life Prediction Ratio Summary

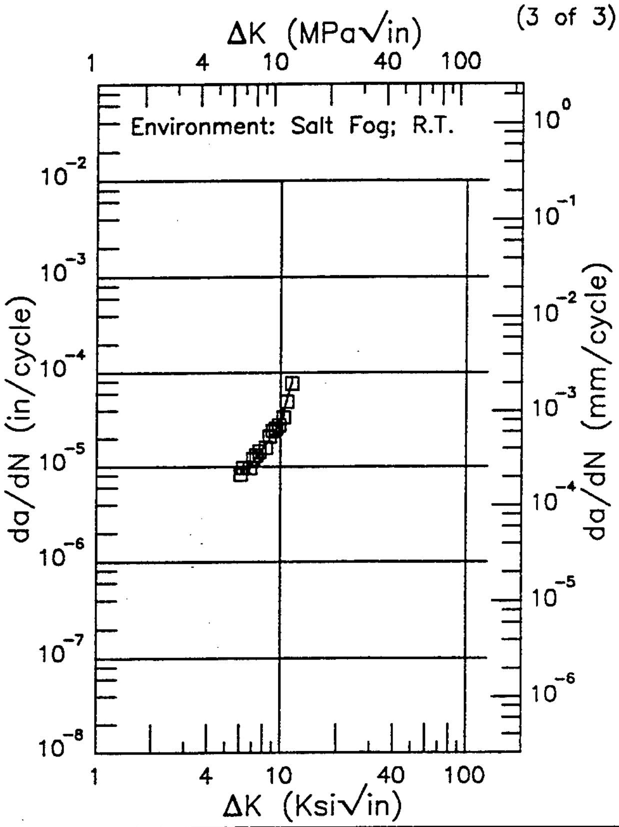
0. .5 .8 1.25 2.

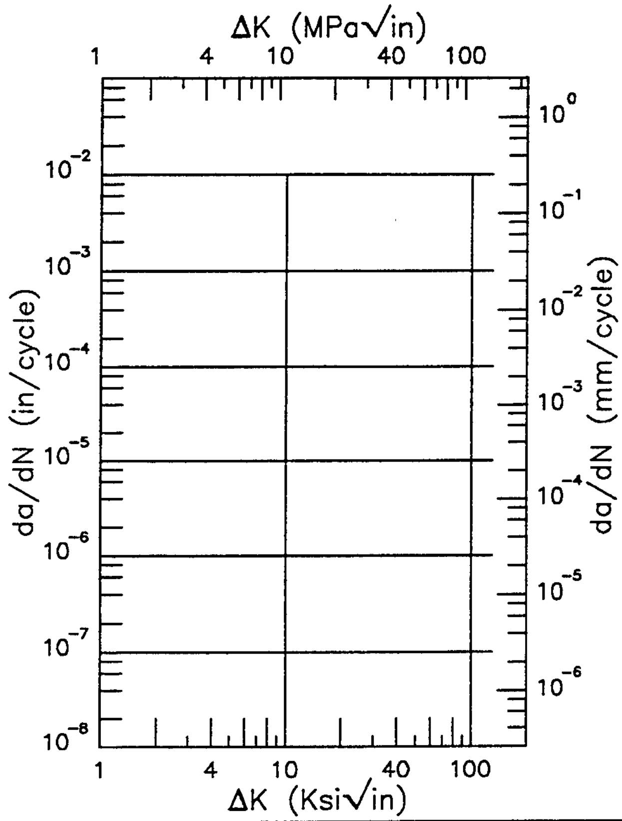
Figure 8.6.3.1.1

Condition/Ht: T73
Form: 4 – 5 in. Forging
Specimen Type: CT
Orientation: T–L
Stress Ratio: 0.33
Frequency: 18.3 Hz

Yield Strength: 58.1 – 68.5 ksi
Ult. Strength: 68.4 – 76.4 ksi
Specimen Thk: 1.495 – 1.502 in.
Specimen Width: 3.8 in.
Ref: 86842

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.07 (min)	9.04
7.	10.9
8.	15.7
9.	21.6
10.	30.2
11.44 (max)	77.0

ΔK (Ksi√in) da/dN (10^{-6}in/cycle)

RMS % Error: 6.61

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.6.3.1.1 (Concluded)

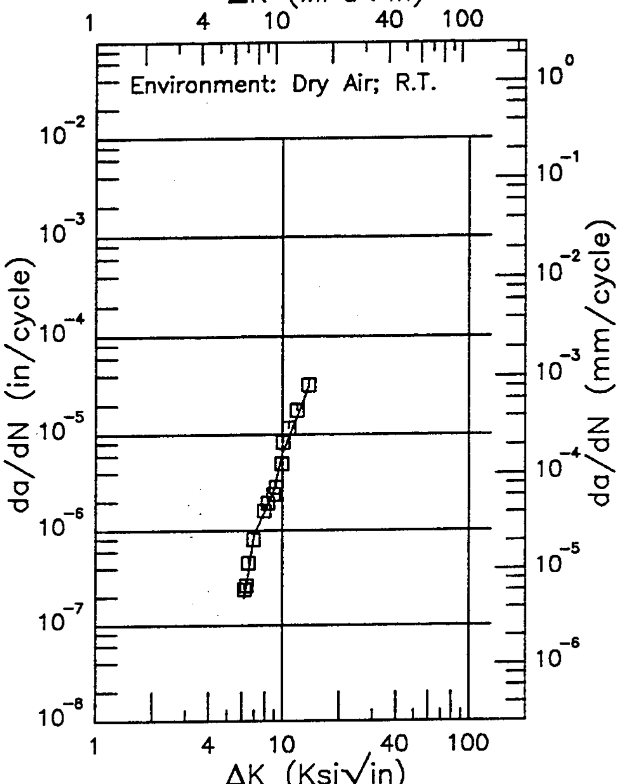
E

7049

Condition/Ht: T73
Form: 5 in. Forging
Specimen Type: CT
Orientation: S-T
Stress Ratio: 0.33
Frequency: 18.3 Hz

Yield Strength: 59.1 ksi
Ult. Strength: 68.1 ksi
Specimen Thk: 1.5 – 1.501 in.
Specimen Width: 3.8 in.
Ref: 86842

(1 of 2)



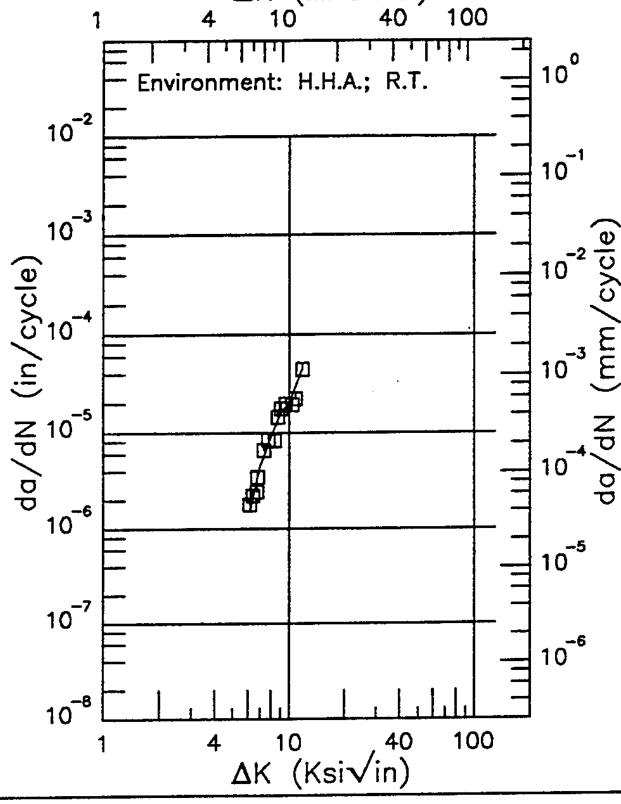
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.20 (min)	0.194
7.	0.918
8.	1.58
9.	2.68
10.	6.45
13.	22.2
13.74 (max)	31.7

RMS % Error 16.26

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.14 (min)	1.53
7.	4.58
8.	9.15
9.	15.8
10.	20.1
11.75 (max)	44.2

RMS % Error 15.38

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.6.3.1.2

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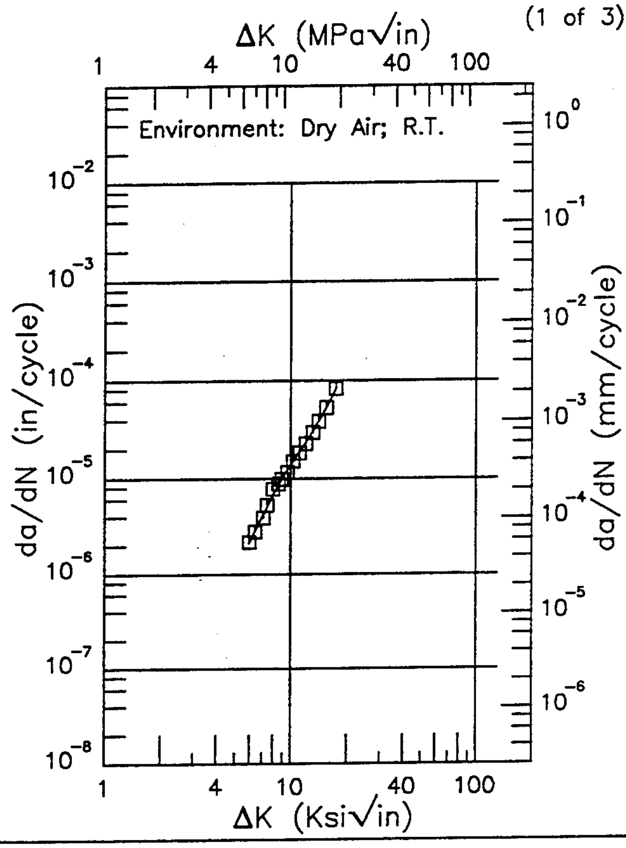
E

7049

Condition/Ht: T73
Form: 5 in. Forging
Specimen Type: CCP (max load specified)
Orientation: L–T
Stress Ratio: 0.33
Frequency: 5.2 Hz

Yield Strength: 60.1 ksi
Ult. Strength: 70.3 ksi
Specimen Thk: 0.748 – 0.75 in.
Specimen Width: 3 in.
Ref: 86842

(1 of 3)



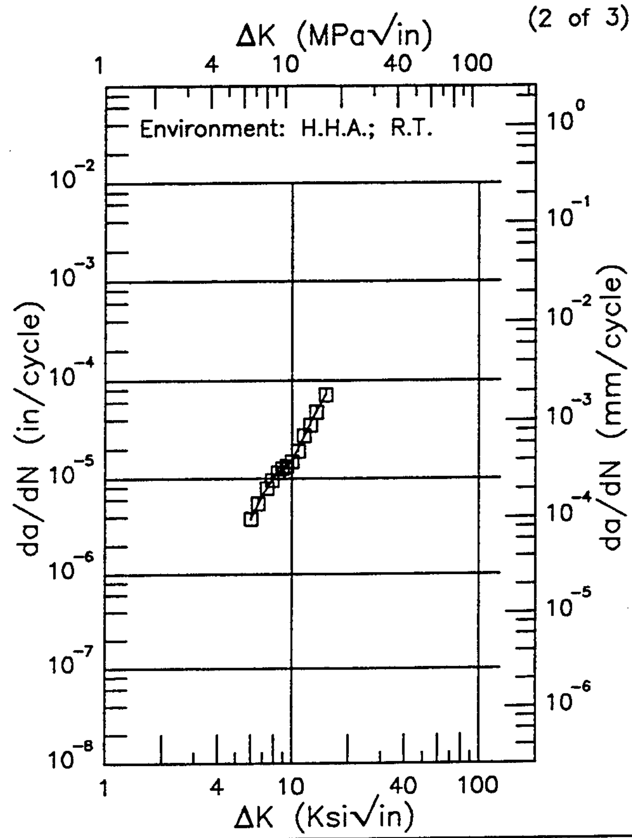
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.96 (min)	2.13
6.	2.18
7.	4.00
8.	6.87
9.	10.3
10.	13.8
13.	29.1
16.	59.4
17.34 (max)	82.1

RMS % Error: 4.14

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.02 (min)	3.75
7.	6.80
8.	10.2
9.	12.6
10.	15.1
13.	42.0
15.15 (max)	71.3

RMS % Error: 2.29

Life Prediction Ratio Summary

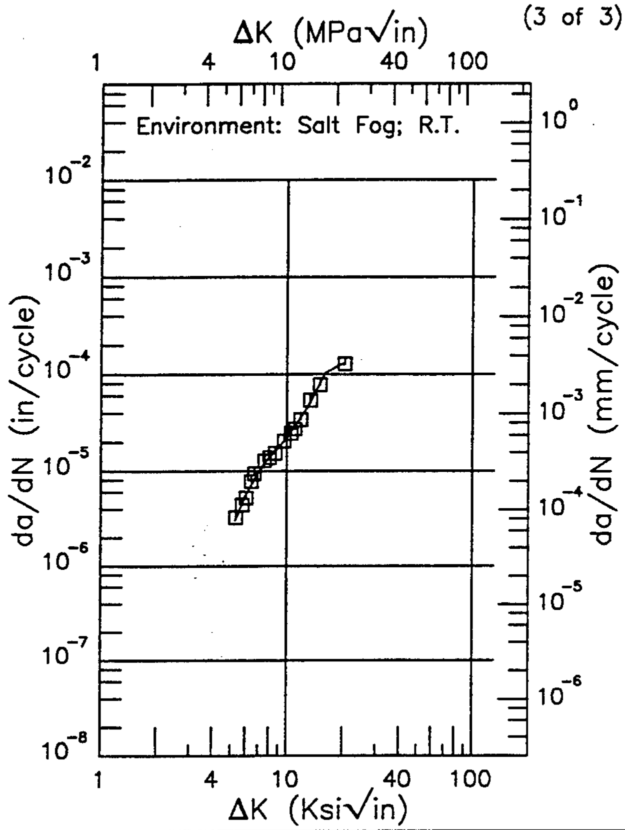
0. .5 .8 1.25 2.

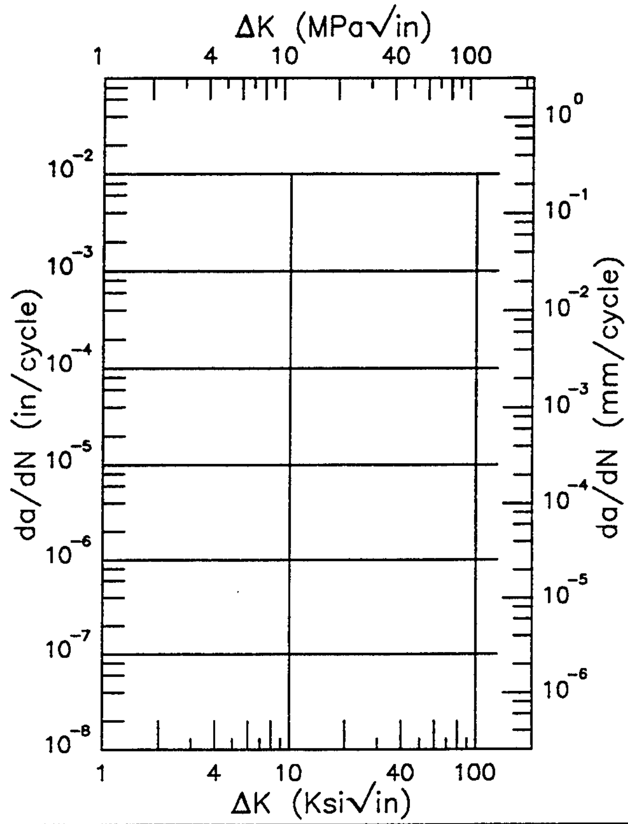
Figure 8.6.3.1.3

Condition/Ht: T73
Form: 5 in. Forging
Specimen Type: CCP (max load specified)
Orientation: L-T
Stress Ratio: 0.33
Frequency: 5.2 Hz

Yield Strength: 60.1 ksi
Ult. Strength: 70.3 ksi
Specimen Thk: 0.748 – 0.75 in.
Specimen Width: 3 in.
Ref: 86842

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.30 (min)	3.04
6.	5.70
7.	9.89
8.	13.9
9.	17.8
10.	22.2
13.	46.5
16.	104.
20.	130.
20.25 (max)	126.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
6.09

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

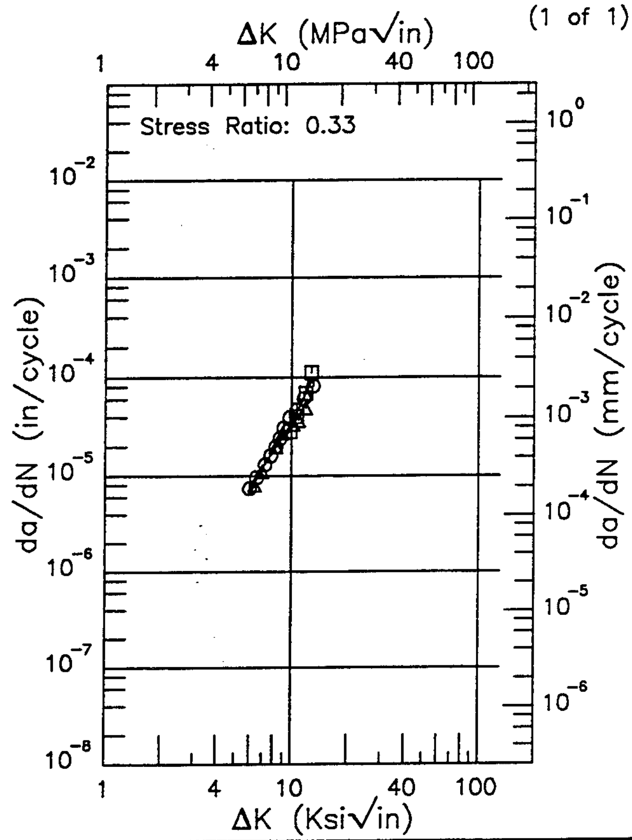
Figure 8.6.3.1.3 (Concluded)

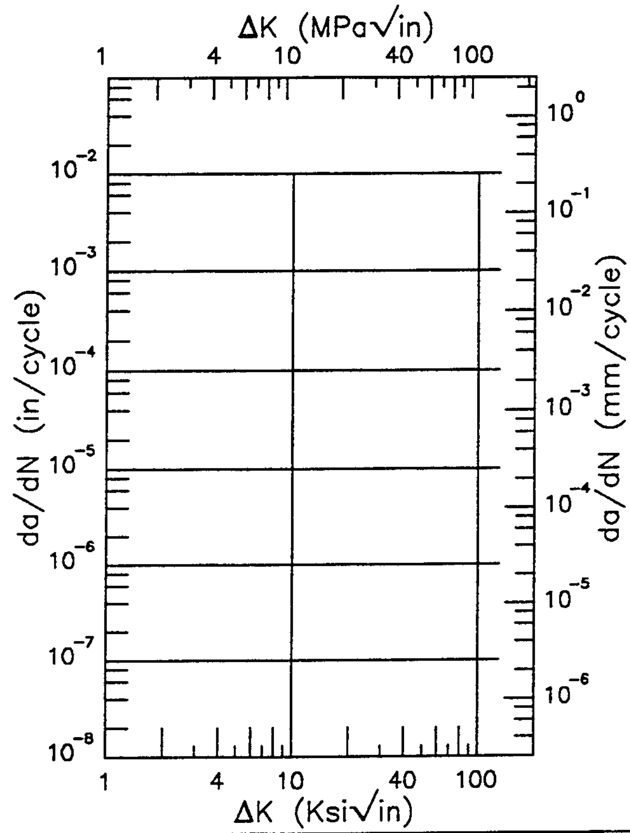
R — 7049

Condition/Ht: T73
Form: 5 in. Forging
Specimen Type: CCP (max load specified)
Orientation: T–L
Frequency: 5.2 Hz
Environment: SALT FOG; RT

Yield Strength: 58.1 ksi
Ult. Strength: 68.4 ksi
Specimen Thk: 0.749 – 0.752 in.
Specimen Width: 3 in.
Ref: 86842

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.98 (min)	6.48
6.	6.59
7.	12.2
8.	18.3
9.	25.4
10.	34.6
12.94 (max)	99.3

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
13.10

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

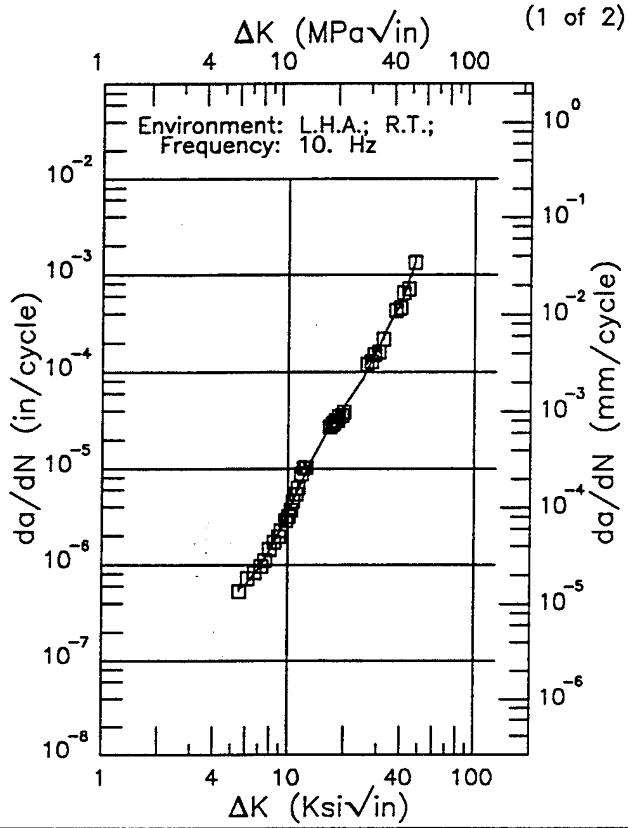
0. .5 .8 1.25 2.

Figure 8.6.3.1.4

Condition/Ht: T7351
Form: 1.25 in. Plate
Specimen Type: CCP (max load specified)
Orientation: L-T
Stress Ratio: −1

Yield Strength: 72 ksi
Ult. Strength: 80.5 ksi
Specimen Thk: 0.25 in.
Specimen Width: 4 in.
Ref: MA007

(1 of 2)



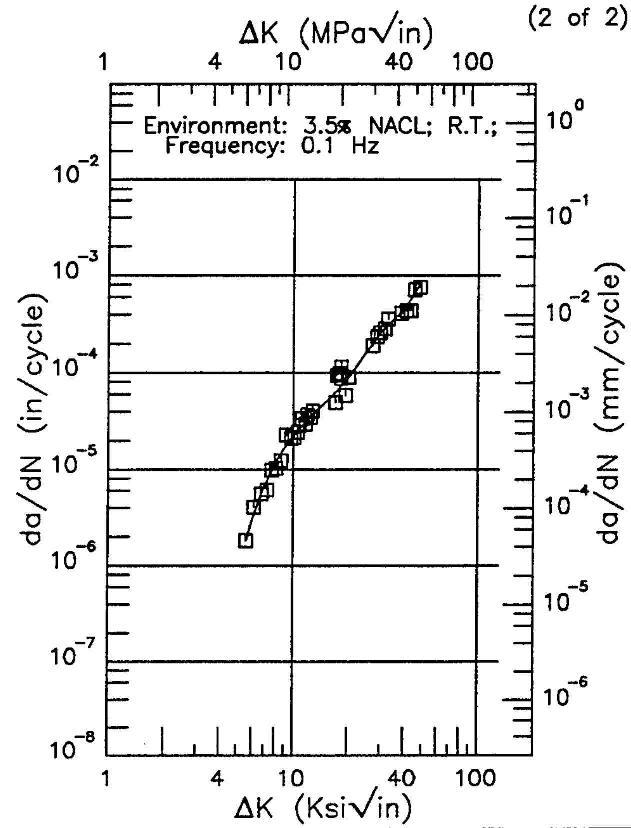
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.51 (min)	0.561
6.	0.631
7.	0.913
8.	1.43
9.	2.27
10.	3.56
13.	11.1
16.	24.1
20.	45.2
25.	85.9
30.	176.
35.	333.
40.	510.
47.38 (max)	1297.

RMS % Error: 9.59

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.59 (min)	1.88
6.	2.95
7.	6.67
8.	11.5
9.	16.9
10.	22.3
13.	38.1
16.	54.8
20.	87.4
25.	160.
30.	259.
35.	352.
40.	435.
48.22 (max)	800.

RMS % Error: 19.24

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

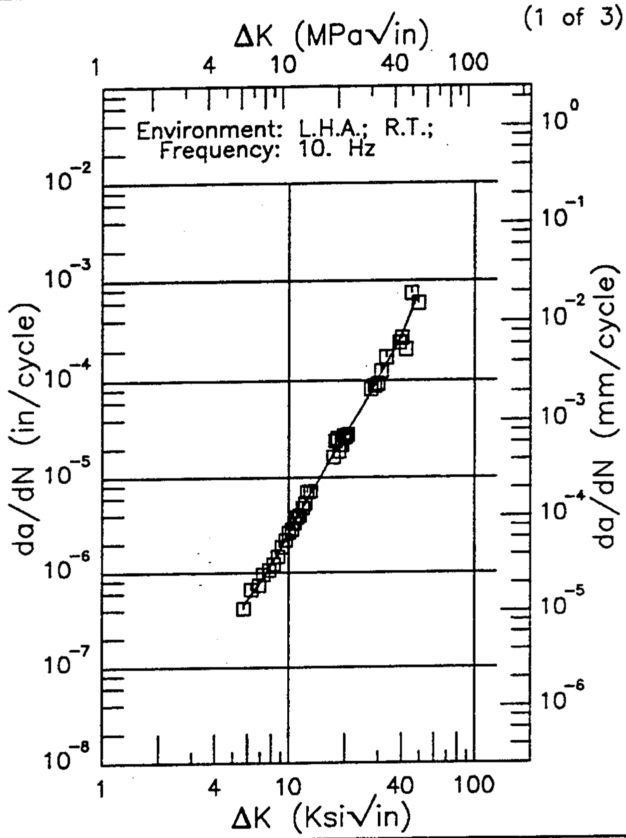
Figure 8.6.3.1.5

EF 7049

Condition/Ht: T7351
Form: 1.25 in. Plate
Specimen Type: CCP (max load specified)
Orientation: L–T
Stress Ratio: 0.

Yield Strength: 72 ksi
Ult. Strength: 80.5 ksi
Specimen Thk: 0.25 in.
Specimen Width: 4 in.
Ref: MA007

(1 of 3)



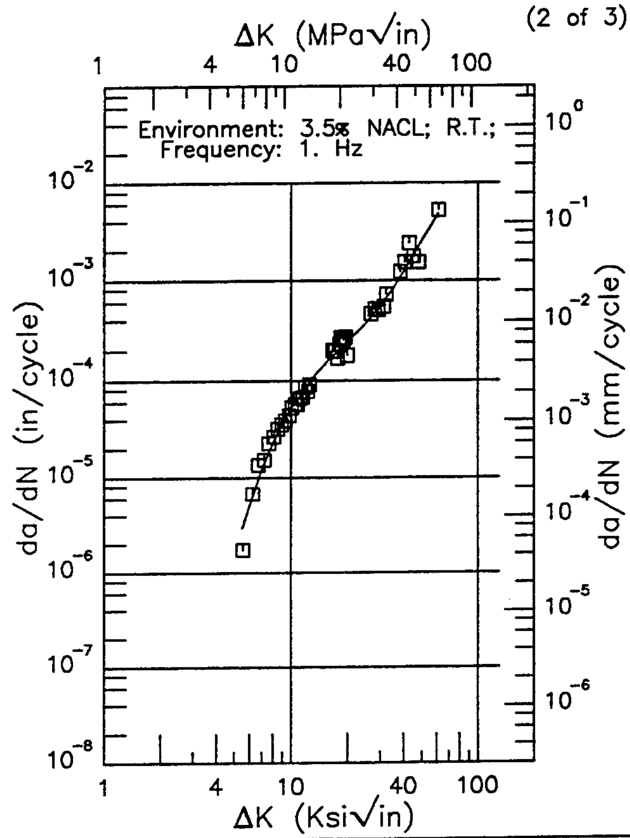
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.71 (min)	0.454
6.	0.514
7.	0.794
8.	1.21
9.	1.79
10.	2.59
13.	6.60
16.	13.6
20.	27.8
25.	56.2
30.	104.
35.	179.
40.	281.
49.15 (max)	723.

RMS % Error 15.13

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.54 (min)	2.99
6.	5.06
7.	12.2
8.	22.9
9.	36.7
10.	52.7
13.	107.
16.	164.
20.	244.
25.	368.
30.	546.
35.	819.
40.	1231.
50.	2565.
60.	4571.
61.17 (max)	4840.

RMS % Error 18.70

Life Prediction Ratio Summary

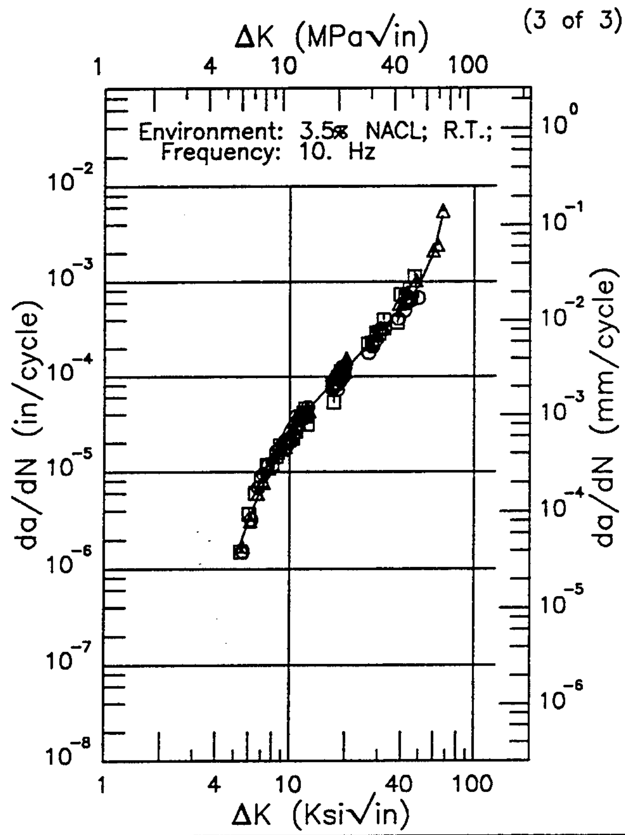
0. .5 .8 1.25 2.

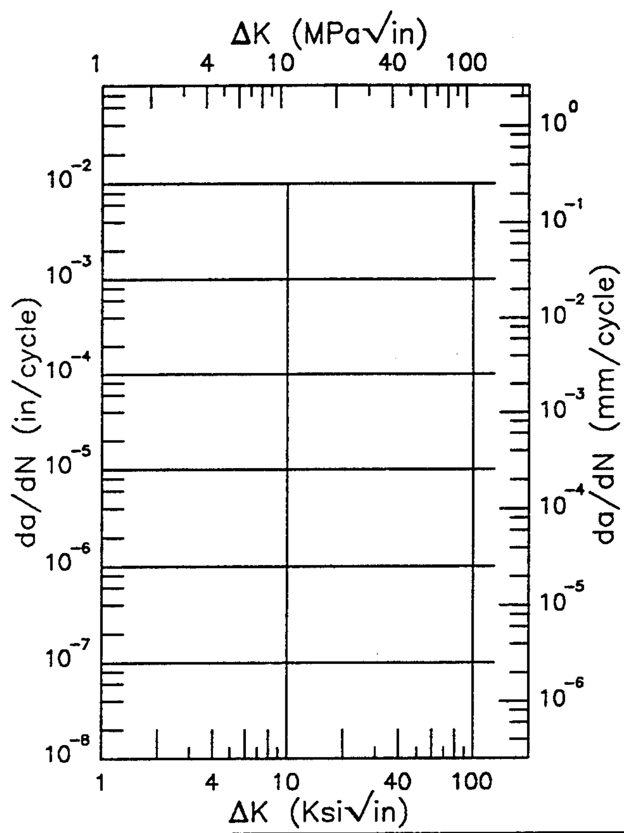
Figure 8.6.3.1.6

Condition/Ht: T7351
Form: 1.25 in. Plate
Specimen Type: CCP (max load specified)
Orientation: L–T
Stress Ratio: 0.

Yield Strength: 72 ksi
Ult. Strength: 80.5 ksi
Specimen Thk: 0.25 in.
Specimen Width: 4 in.
Ref: MA007

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.44 (min)	1.79
6.	3.17
7.	6.84
8.	11.9
9.	18.1
10.	25.1
13.	48.7
16.	75.2
20.	118.
25.	193.
30.	293.
35.	408.
40.	529.
50.	904.
60.	2017.
67.01 (max)	4902.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
15.00

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

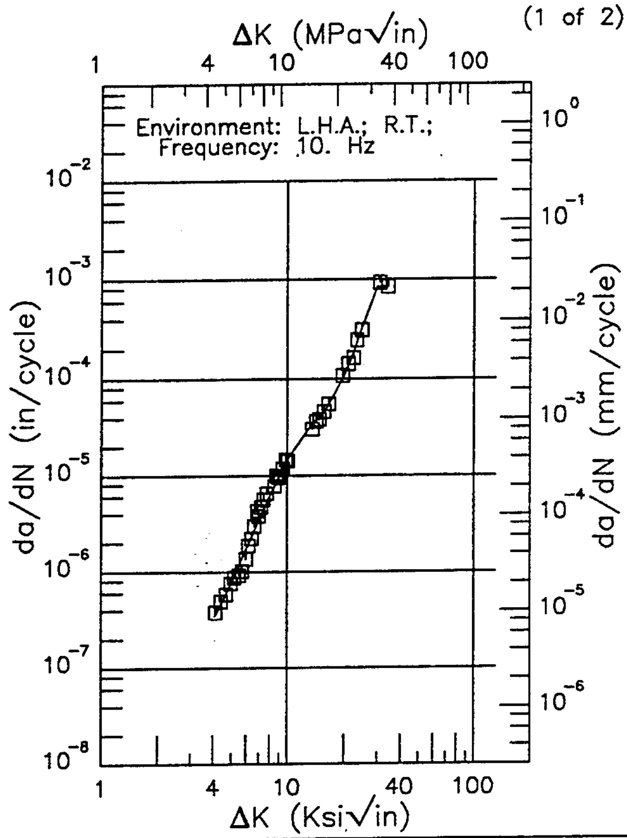
Figure 8.6.3.1.6 (Concluded)

EF 7049

Condition/Ht: T7351
Form: 1.25 in. Plate
Specimen Type: CCP (max load specified)
Orientation: L–T
Stress Ratio: 0.5

Yield Strength: 72 ksi
Ult. Strength: 80.5 ksi
Specimen Thk: 0.25 in.
Specimen Width: 4 in.
Ref: MA007

(1 of 2)

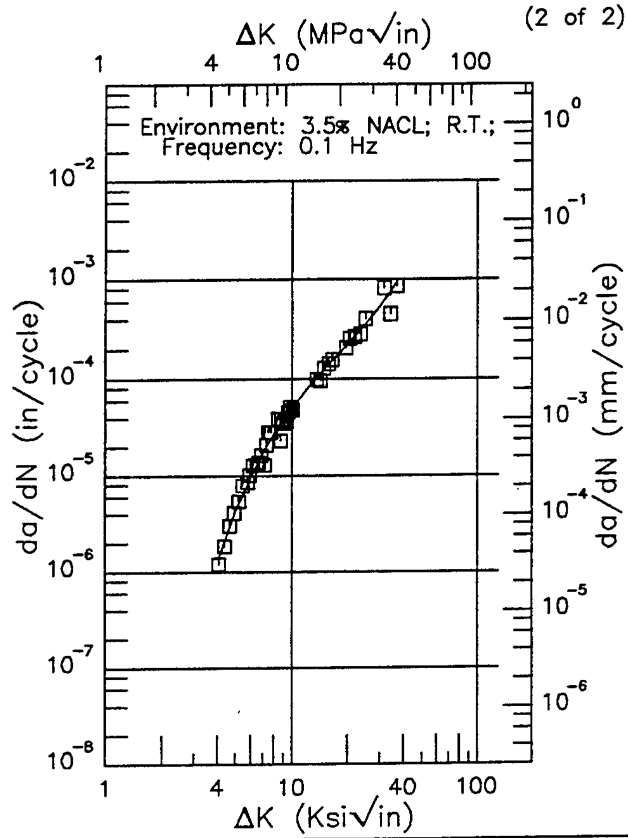


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.10 (min)	0.345
5.	0.765
6.	1.71
7.	3.43
8.	6.13
9.	9.90
10.	14.6
13.	30.6
16.	49.5
20.	107.
25.	340.
30.	844.
34.04 (max)	838.

RMS % Error 12.52

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.09 (min)	1.40
5.	4.20
6.	9.61
7.	17.4
8.	27.2
9.	38.6
10.	51.2
13.	94.1
16.	144.
20.	222.
25.	352.
30.	536.
35.	806.
36.70 (max)	924.

RMS % Error 15.78

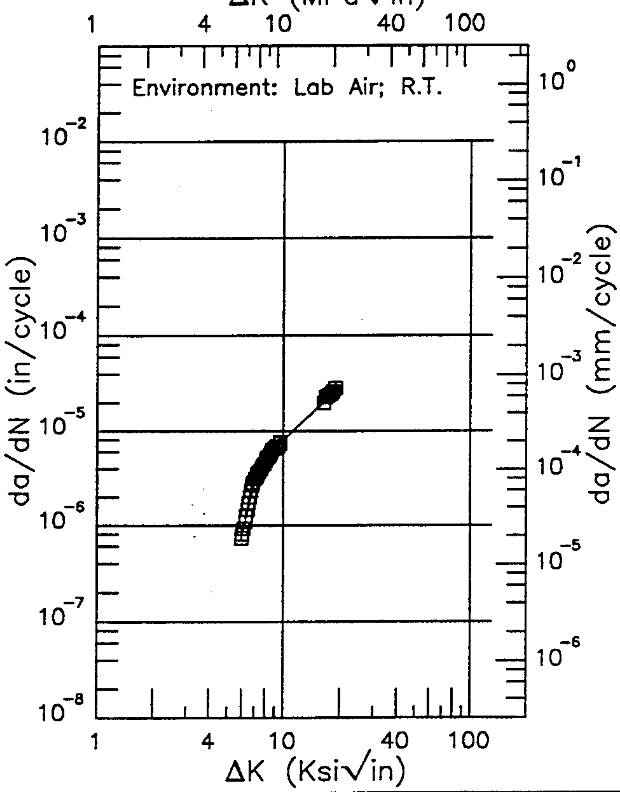
Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

Figure 8.6.3.1.7

Condition/Ht: T73511-HIGH PURITY
Form: 1.5 in. Extrusion
Specimen Type: CT
Orientation: L-T
Stress Ratio: 0.1
Frequency: 30 Hz

Yield Strength: 76.7 ksi
Ult. Strength: 83.9 ksi
Specimen Thk: 0.625 in.
Specimen Width: 2.55 in.
Ref: WA001

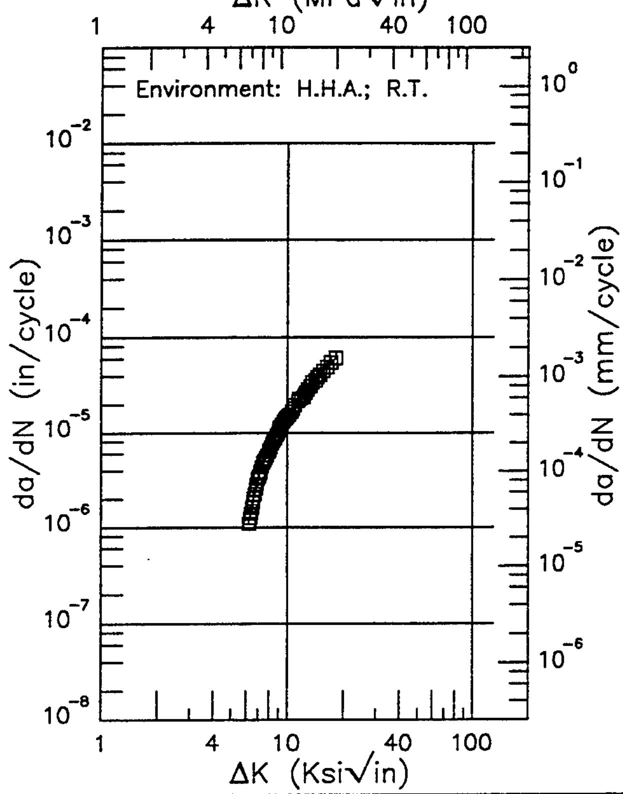
(1 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.95 (min)	0.711
6.	0.779
7.	2.75
8.	4.98
9.	6.66
10.	7.98
13.	13.1
16.	19.3
18.73 (max)	28.9

RMS % Error	Life Prediction Ratio Summary
6.86	0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.21 (min)	1.08
7.	3.22
8.	6.85
9.	10.6
10.	14.6
13.	29.6
16.	47.4
18.07 (max)	60.7

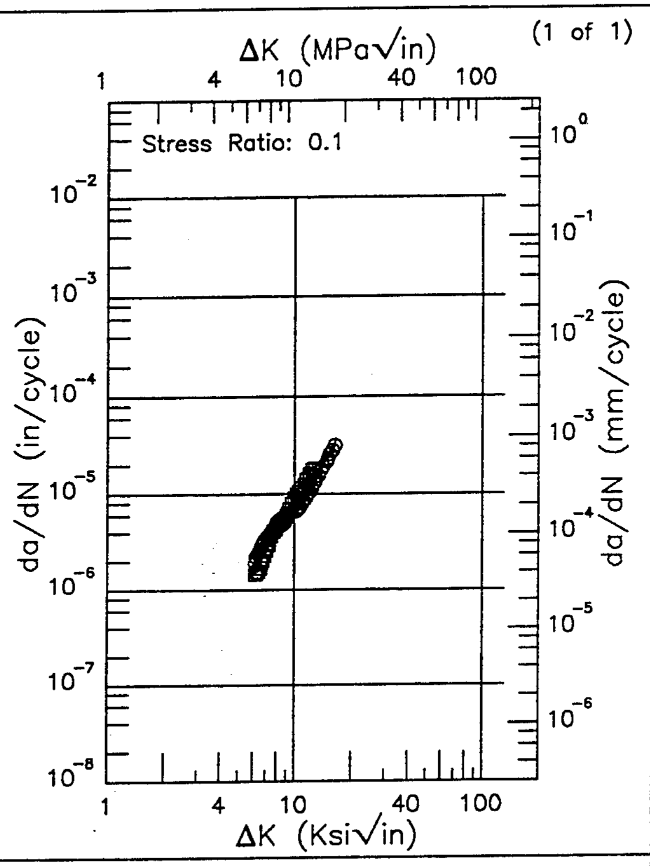
RMS % Error	Life Prediction Ratio Summary
3.95	0. .5 .8 1.25 2.

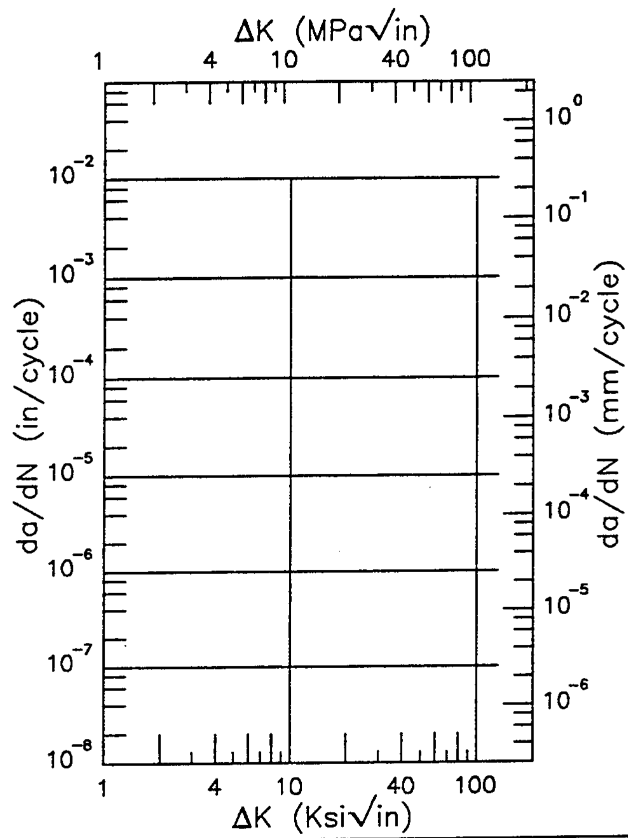
Figure 8.6.3.1.8

R 7049

Condition/Ht: T73511–HIGH PURITY
Form: 1.5 in. Extrusion
Specimen Type: CT
Orientation: T–L
Frequency: 30 Hz
Environment: LAB AIR; RT

Yield Strength: 70.3 ksi
Ult. Strength: 78.5 ksi
Specimen Thk: 0.625 in.
Specimen Width: 2.55 in.
Ref: WA001





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.17 (min)	1.69
7.	2.97
8.	4.48
9.	5.96
10.	7.66
13.	15.3
16.	29.6
16.25 (max)	31.7

ΔK (Ksi√in) da/dN (10^{-6}in/cycle)

RMS % Error 14.60

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

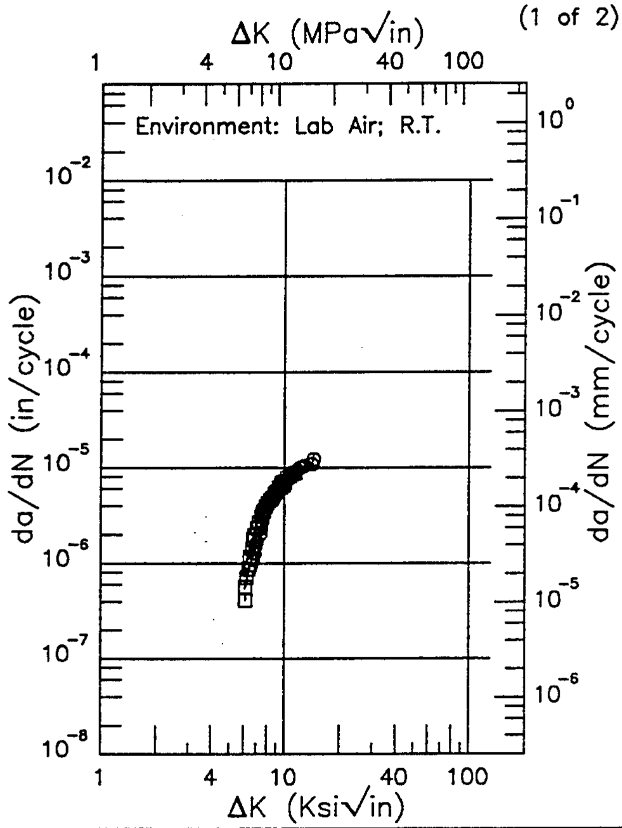
0. .5 .8 1.25 2.

Figure 8.6.3.1.9

Condition/Ht: T73511–LOW PURITY
Form: 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.1
Frequency: 30 Hz

Yield Strength: 73.1 ksi
Ult. Strength: 80 ksi
Specimen Thk: 0.625 in.
Specimen Width: 2.55 in.
Ref: WA001

(1 of 2)

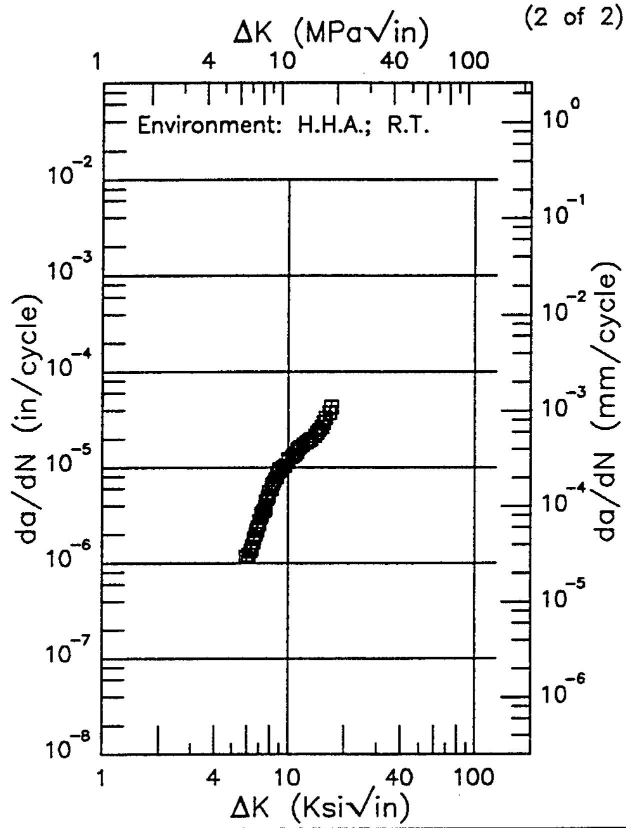


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.10 (min)	0.541
7.	1.85
8.	3.84
9.	5.65
10.	7.11
13.	10.5
14.37 (max)	11.0

RMS % Error: 12.57

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.94 (min)	1.05
6.	1.10
7.	2.59
8.	5.50
9.	9.12
10.	12.1
13.	19.2
16.	32.6
16.99 (max)	43.0

RMS % Error: 4.41

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

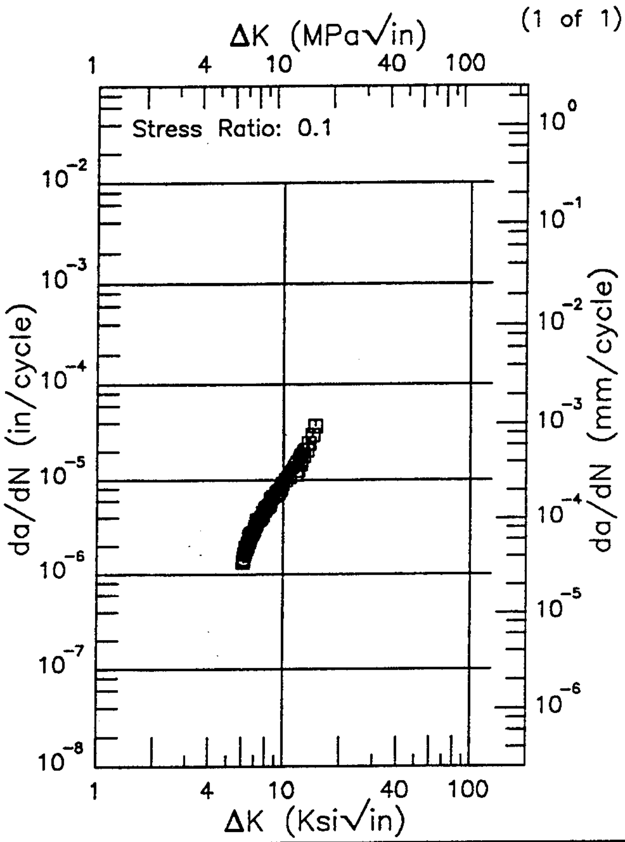
Figure 8.6.3.1.10

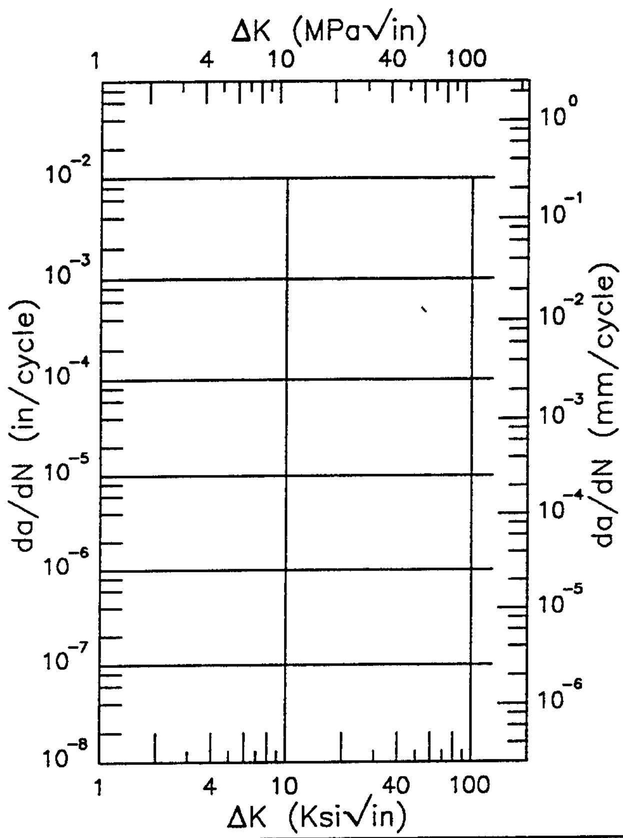
7049

R

Condition/Ht: T73511–LOW PURITY
Form: 1.5 in. Extrusion
Specimen Type: CT
Orientation: T–L
Frequency: 30 Hz
Environment: LAB AIR; RT

Yield Strength: 68.6 ksi
Ult. Strength: 75.7 ksi
Specimen Thk: 0.625 in.
Specimen Width: 2.55 in.
Ref: WA001





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.07 (min)	1.42
7.	2.99
8.	4.98
9.	7.07
10.	9.32
13.	20.0
14.70 (max)	33.4

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
7.40	0. .5 .8 1.25 2.

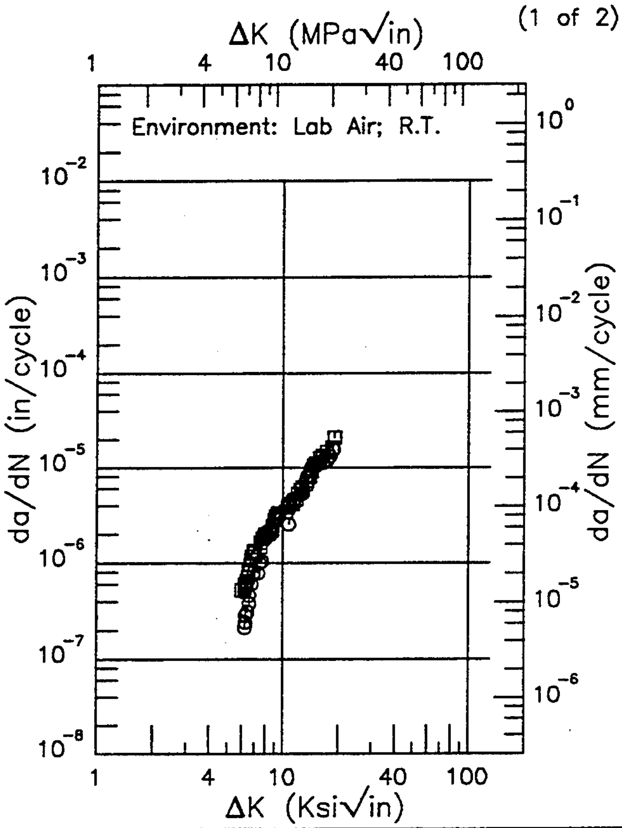
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.6.3.1.11

Condition/Ht: T73511–MEDIUM PURITY
Form: 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.1
Frequency: 30 Hz

Yield Strength: 75.4 ksi
Ult. Strength: 82.5 ksi
Specimen Thk: 0.625 in.
Specimen Width: 2.55 in.
Ref: WA001

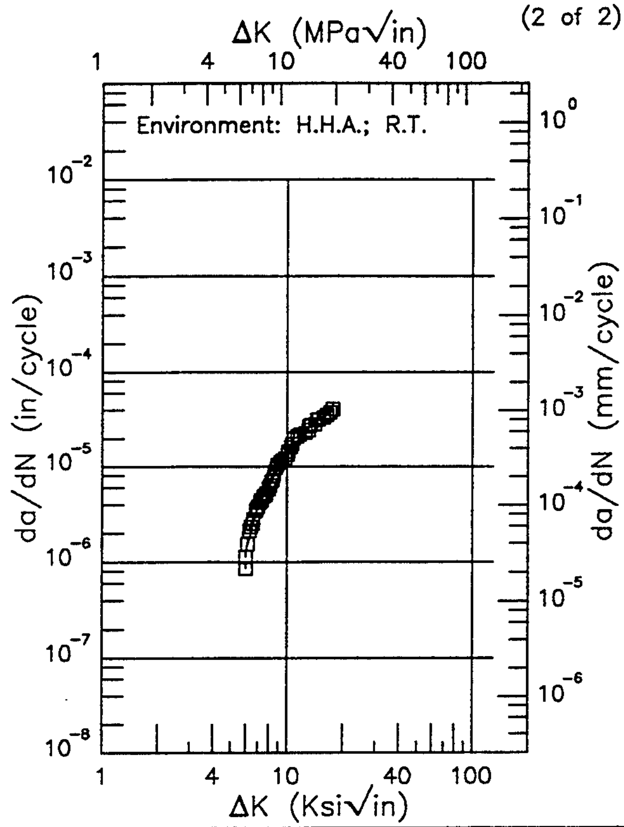
(1 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.97 (min)	0.430
6.	0.441
7.	0.955
8.	1.77
9.	2.70
10.	3.41
13.	6.43
16.	12.3
18.90 (max)	18.8

RMS % Error	Life Prediction Ratio Summary
21.95	0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.98 (min)	1.27
6.	1.30
7.	3.75
8.	6.54
9.	9.71
10.	14.0
13.	25.5
16.	34.4
17.55 (max)	38.5

RMS % Error	Life Prediction Ratio Summary
9.57	0. .5 .8 1.25 2.

Figure 8.6.3.1.12

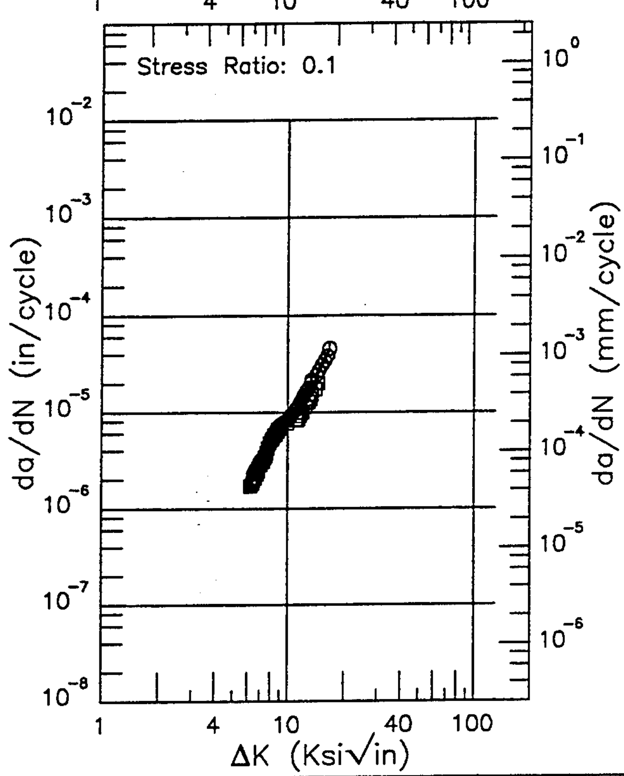
7049

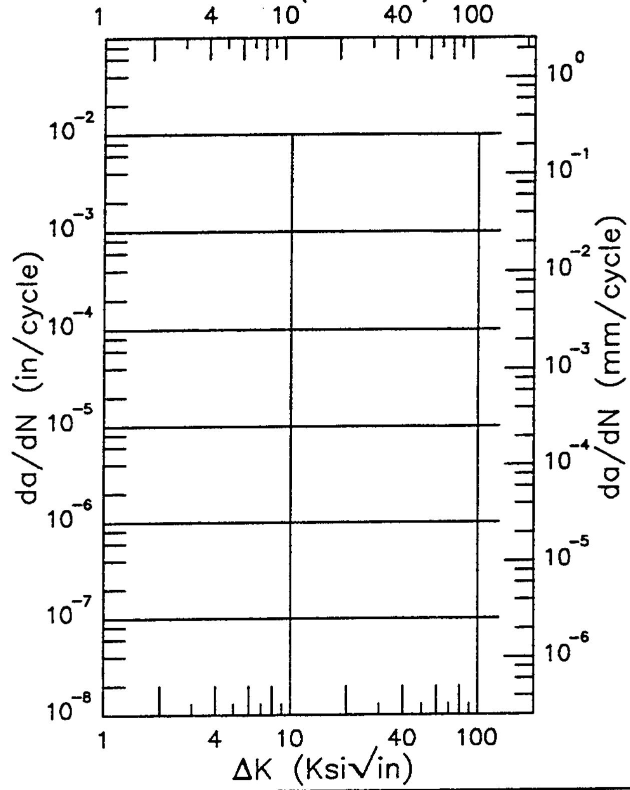
R

Condition/Ht: T73511–MEDIUM PURITY
Form: 1.5 in. Extrusion
Specimen Type: CT
Orientation: T–L
Frequency: 30 Hz
Environment: LAB AIR; RT

Yield Strength: 69.2 ksi
Ult. Strength: 76.5 ksi
Specimen Thk: 0.625 in.
Specimen Width: 2.55 in.
Ref: WA001

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.21 (min)	1.81
7.	2.77
8.	4.80
9.	7.01
10.	8.49
13.	15.9
16.	37.4
16.60 (max)	44.3

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
10.38	0. .5 .8 1.25 2.

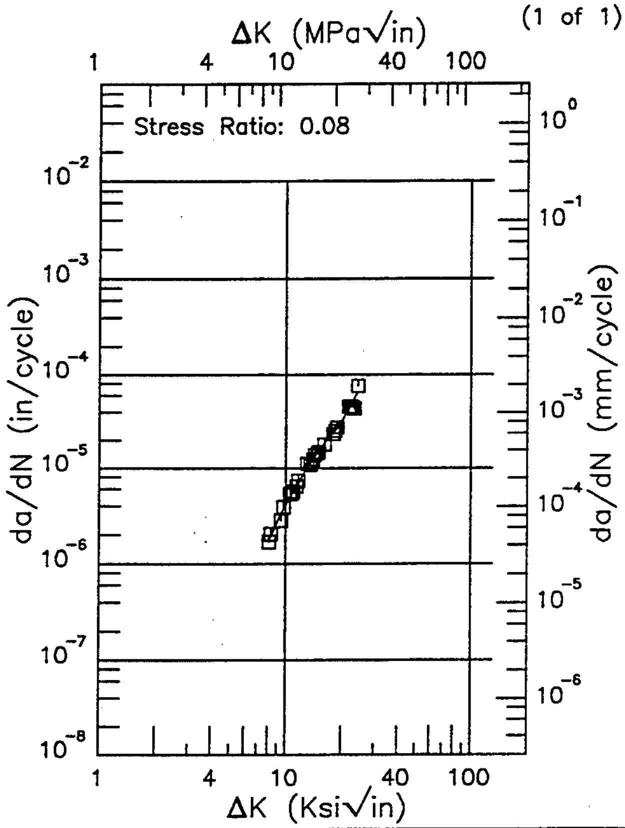
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

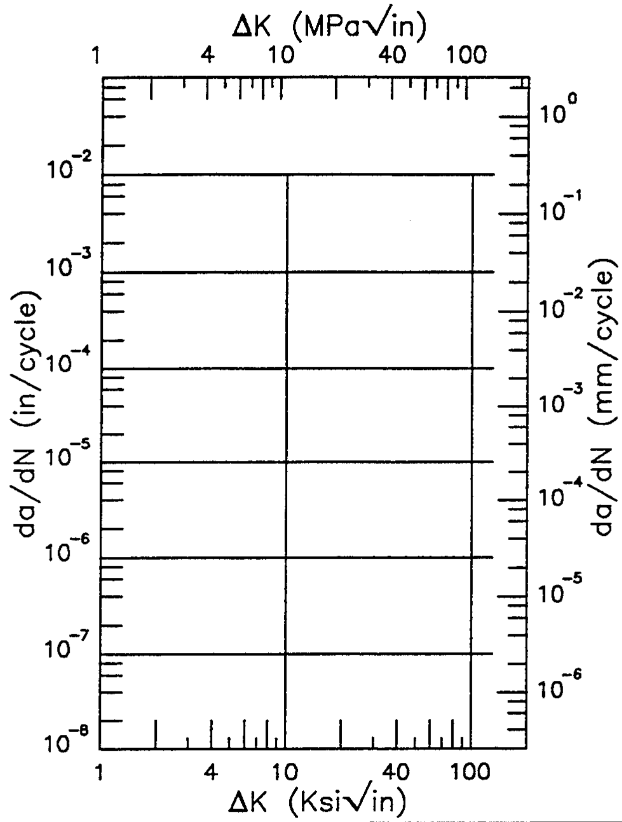
Figure 8.6.3.1.13

Condition/Ht: T7352
Form: 3 in. Forging
Specimen Type: CT
Orientation: L–T
Frequency: 6 Hz
Environment: L.H.A.; RT

Yield Strength: 67 ksi
Ult. Strength: 76 ksi
Specimen Thk: 0.25 in.
Specimen Width: 7.4 in.
Ref: 88579

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
8.12 (min)	1.73
9.	2.69
10.	4.09
13.	10.1
16.	18.1
20.	31.5
24.30 (max)	65.4

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error	Life Prediction Ratio Summary
7.58	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

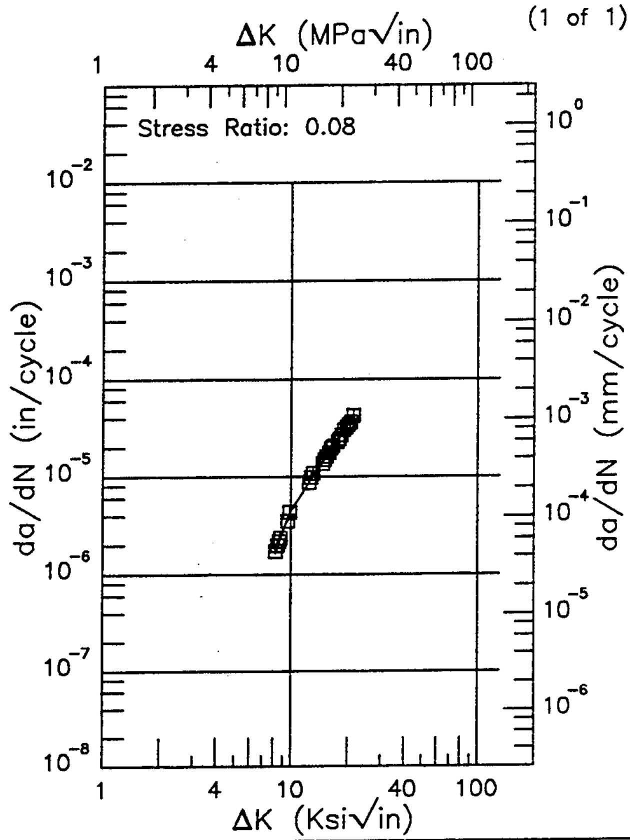
Figure 8.6.3.1.14

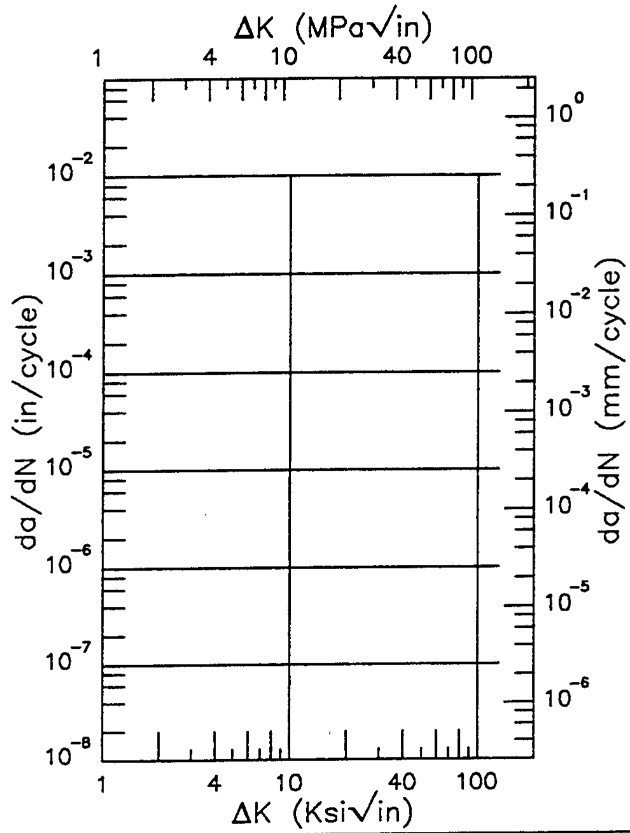
R 7049

Condition/Ht: T7352
Form: 3 in. Forging
Specimen Type: CT
Orientation: L—T
Frequency: 6 Hz
Environment: L.H.A.; RT

Yield Strength: 67 ksi
Ult. Strength: 76 ksi
Specimen Thk: 0.5 in.
Specimen Width: 7.4 in.
Ref: 88579

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
8.25 (min)	1.64
9.	2.80
10.	4.54
13.	10.0
16.	18.0
20.	33.6
21.29 (max)	41.0

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
3.24	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.6.3.1.15

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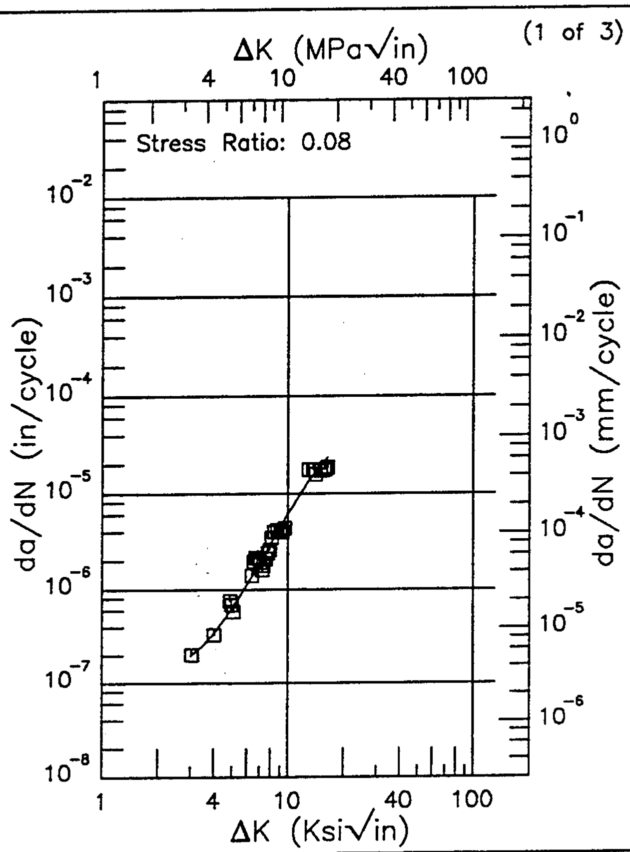
R 7049

Condition/Ht: T7352
Form: 3 in. Forging
Specimen Type: CT
Orientation: L–T
Frequency: 6 Hz
Environment: L.H.A.; RT

Yield Strength: 65 ksi
Ult. Strength: 74 ksi
Specimen Thk: 0.998 – 1 in.
Specimen Width: 7.4 in.
Ref: 85837

(1 of 3)



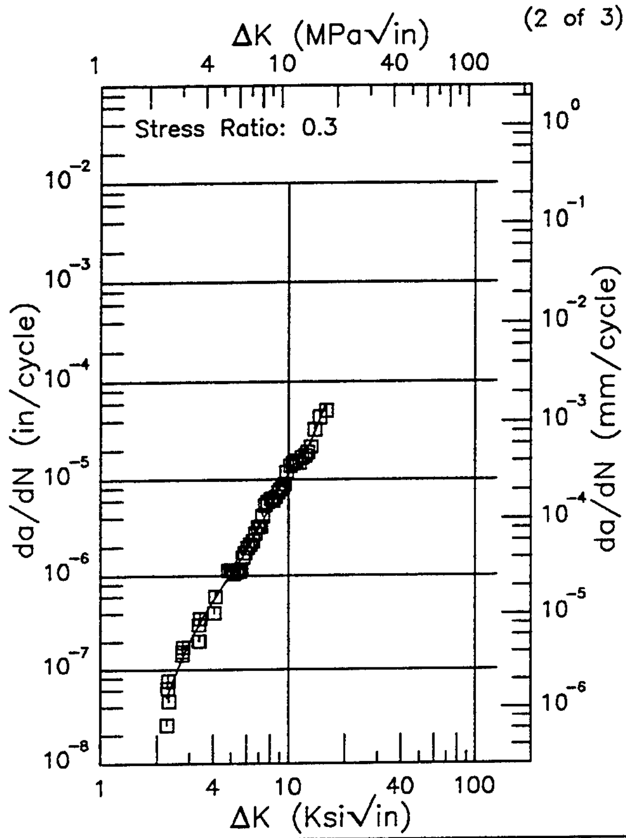
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.03 (min)	0.199
3.5	0.255
4.	0.343
5.	0.633
6.	1.12
7.	1.88
8.	2.97
9.	4.42
10.	6.25
13.	13.7
16.	22.6
16.34 (max)	23.6

RMS % Error 17.30

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.27 (min)	0.0504
2.5	0.0860
3.	0.199
3.5	0.353
4.	0.543
5.	1.05
6.	1.82
7.	3.10
8.	5.20
9.	8.21
10.	11.9
13.	23.3
15.87 (max)	59.8

RMS % Error 17.81

Life Prediction Ratio Summary

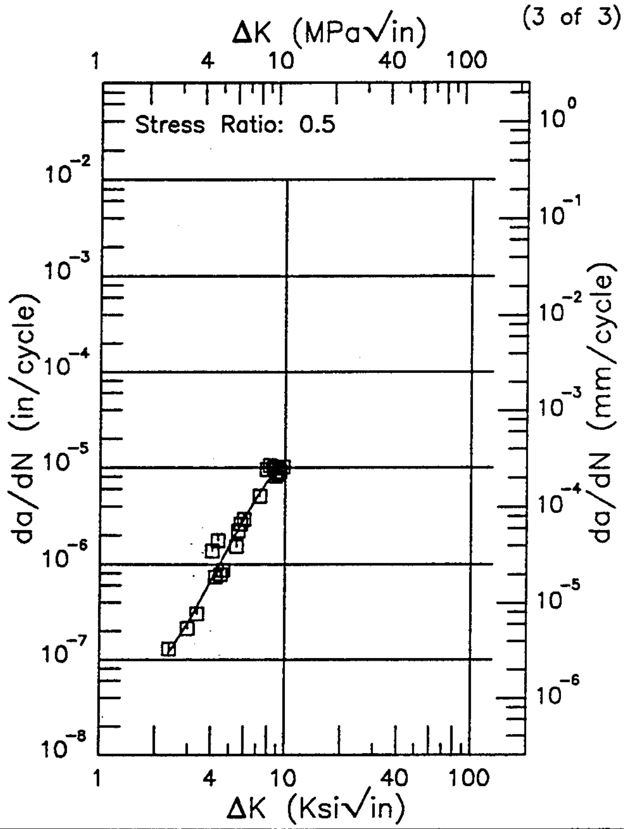
0. .5 .8 1.25 2.

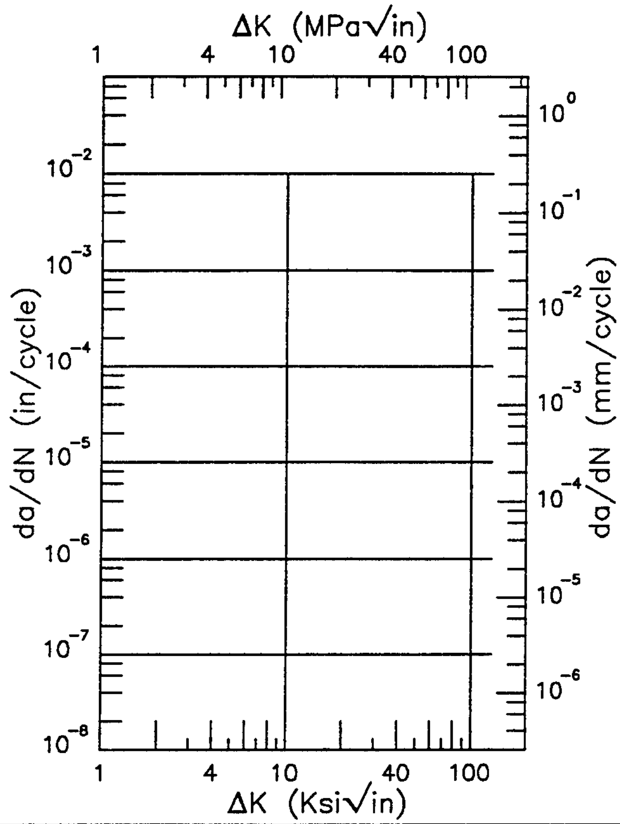
Figure 8.6.3.1.16

Condition/Ht: T7352
Form: 3 in. Forging
Specimen Type: CT
Orientation: L–T
Frequency: 6 Hz
Environment: L.H.A.; RT

Yield Strength: 65 ksi
Ult. Strength: 74 ksi
Specimen Thk: 0.998 – 1 in.
Specimen Width: 7.4 in.
Ref: 85837

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.36 (min)	0.119
2.5	0.139
3.	0.245
3.5	0.418
4.	0.679
5.	1.55
6.	2.96
7.	4.91
8.	7.24
9.	9.72
9.67 (max)	11.3

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
33.93	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

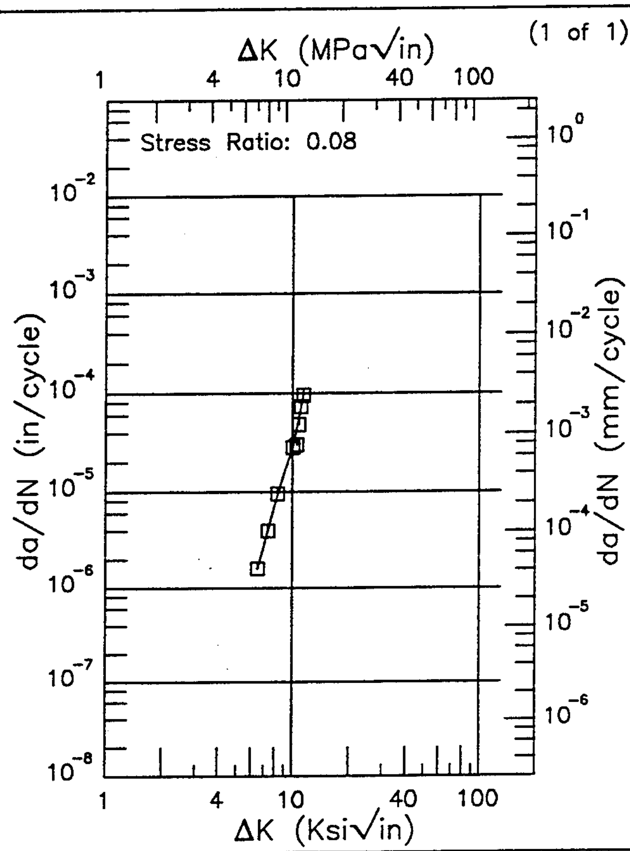
Figure 8.6.3.1.16 (Concluded)

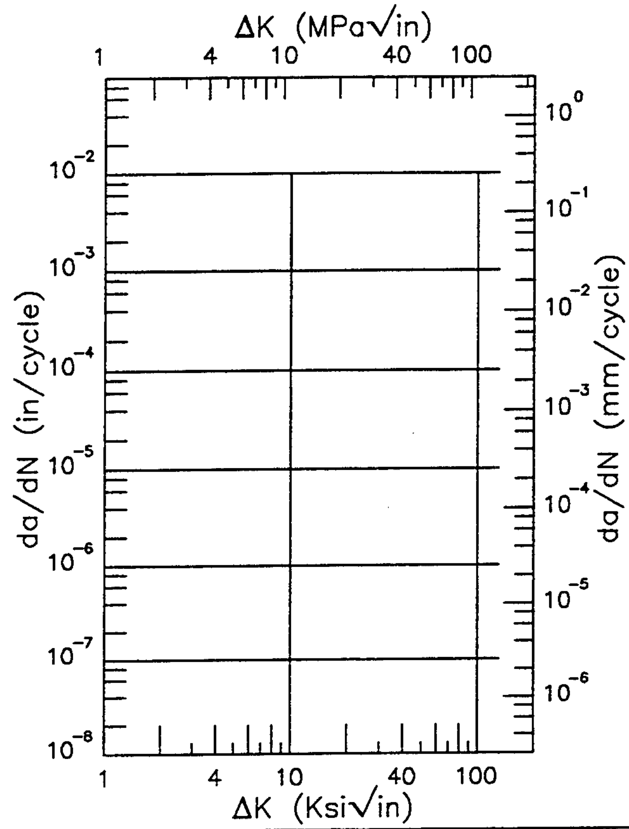
R — 7049

Condition/Ht: T7352
Form: 3 in. Forging
Specimen Type: CT
Orientation: L–T
Frequency: 0.1 Hz
Environment: S.T.W.; RT

Yield Strength: 67 ksi
Ult. Strength: 76 ksi
Specimen Thk: 1 in.
Specimen Width: 7.4 in.
Ref: 88579

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
6.48 (min)	1.60
7.	2.70
8.	7.24
9.	15.4
10.	27.2
11.39 (max)	99.0

ΔK (Ksi√in) — da/dN (10^{-6} in/cycle)

RMS % Error	Life Prediction Ratio Summary
11.48	0. .5 .8 1.25 2.

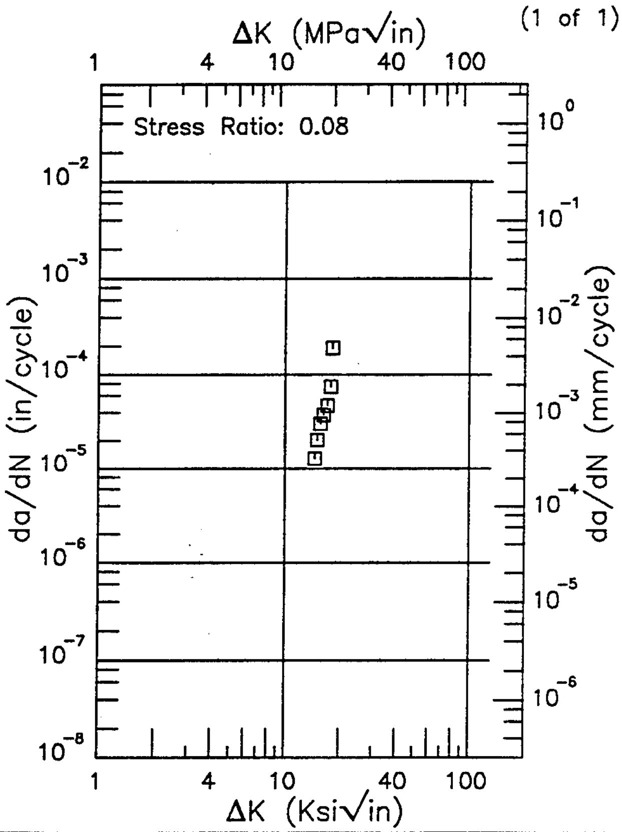
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

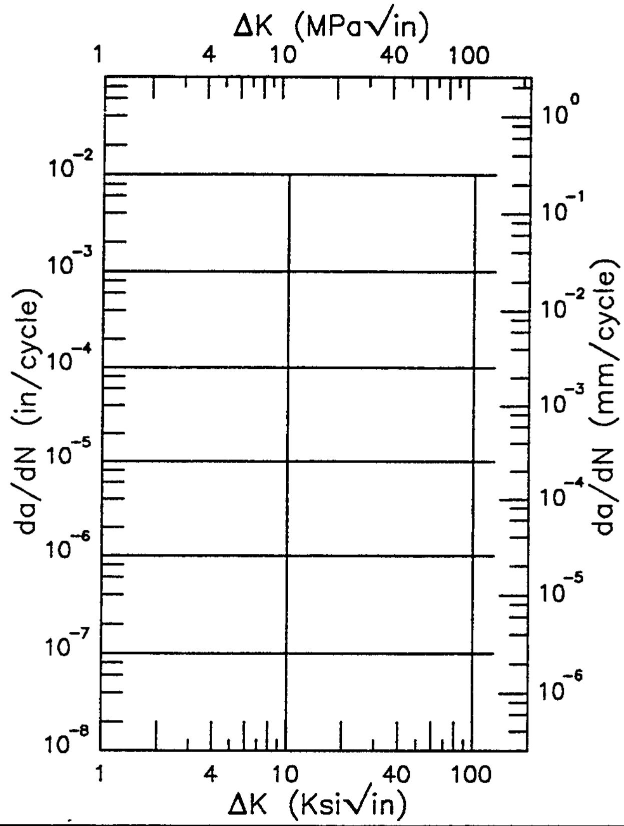
Figure 8.6.3.1.17

Condition/Ht: T7352
Form: 3 in. Forging
Specimen Type: CT
Orientation: T−L
Frequency: 6 Hz
Environment: L.H.A.; RT

Yield Strength: 65 ksi
Ult. Strength: 74 ksi
Specimen Thk: 0.5 in.
Specimen Width: 7.4 in.
Ref: 85837

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)	ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary	RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.		0. .5 .8 1.25 2.

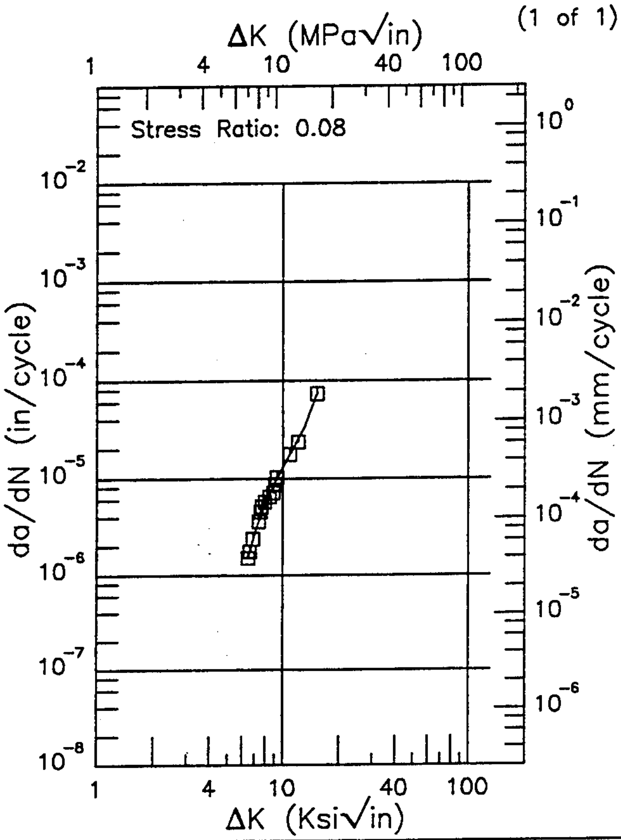
Figure 8.6.3.1.18

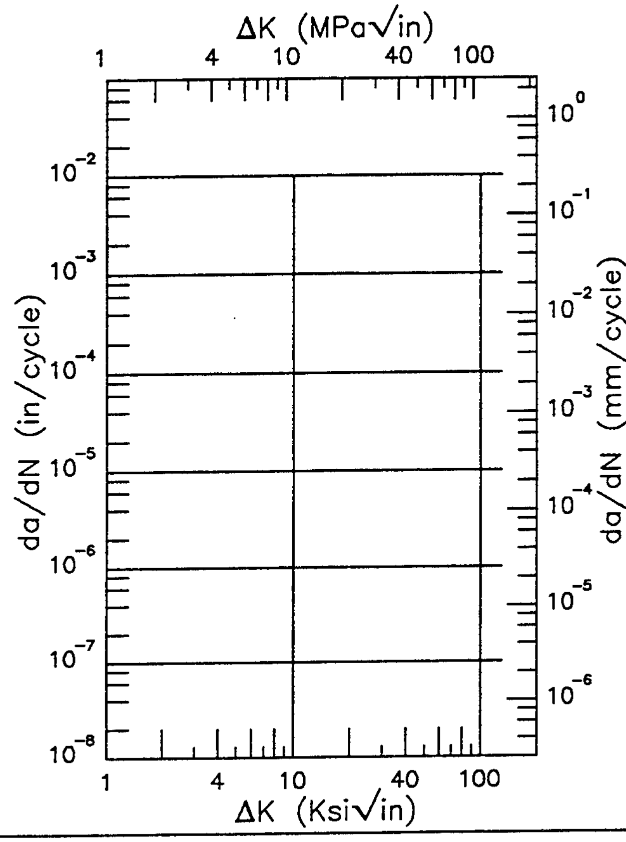
R 7049

Condition/Ht: T7352
Form: Forging
Specimen Type: CT
Orientation: T–L
Frequency: 1 Hz
Environment: S.T.W.; RT

Yield Strength: 64 ksi
Ult. Strength: 73 ksi
Specimen Thk: 0.99 in.
Specimen Width: 7.4 in.
Ref: 88579

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.47 (min)	1.51
7.	2.66
8.	5.55
9.	9.03
10.	13.0
13.	32.7
15.19 (max)	72.4

ΔK (Ksi√in) da/dN (10^{-6}in/cycle)

RMS % Error
7.45

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.6.3.1.19

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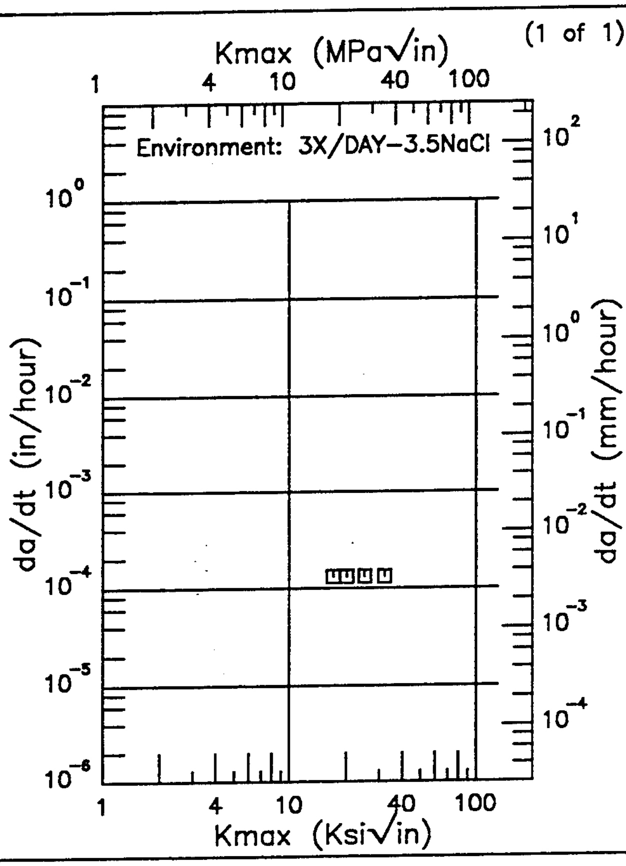
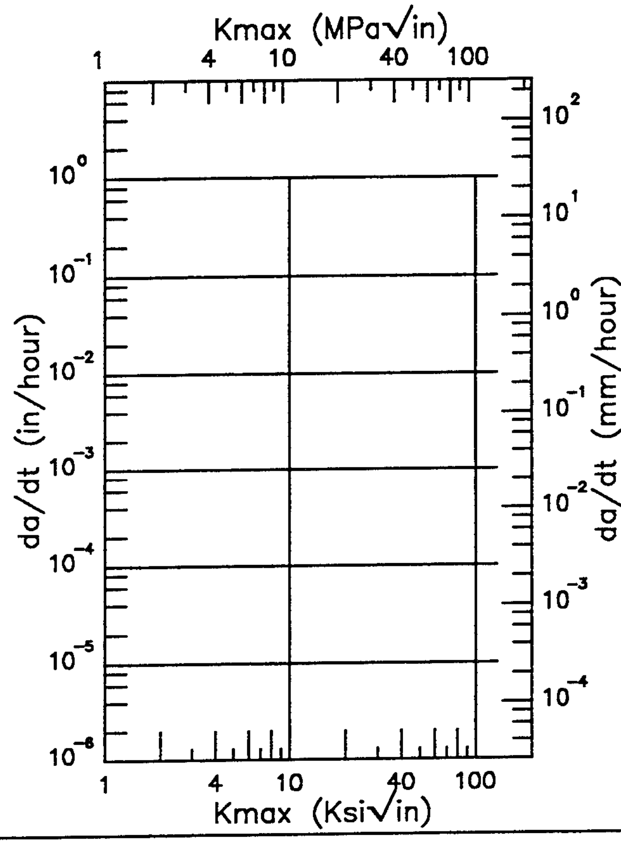
7049

Condition/Ht: T73
Form: Forging
Specimen Type: DCB
Orientation: S–L
Yield Strength:
Ult. Strength:

Specimen Thk: 1 in.
Specimen Width: 5 in.
A_O:
K_{Iscc}:
Ref: 84284

(1 of 1)





Kmax (Ksi√in)	da/dt (10^{-3}in/hour)	Kmax (Ksi√in)	da/dt (10^{-3}in/hour)

RMS % Error		RMS % Error	

Figure 8.6.3.2

TABLE 8.6.3.3

K_{Iscc} SUMMARY FOR ALUMINUM ALLOY 7049

Condition/ Heat treat	Prod Form	Test Temp (°F)	Spec Or.	Yield Str (Ksi)	Envir.	Specimen Design	Specimen Width (in)	Specimen Thick (in)	Prod Thk (in)	Crack (in)	K_Q (Ksi√in)	K_{Iscc} (Ksi√in)	Test Time (min)	Test Date	Refer
T73	F	R.T.	S-L	68.9	3.5% NaCl	CT	1	0.5	---	---	20.5	19.8	60660	1972	83242
	E	R.T.	L-S	73.4	3.5% NaCl	CT	2	1	3.25	---	33.2	20.4	21280	1972	83061
			S-L	65.4	3.5% NaCl	CT	2	1	3.25	---	23	20.3	19800	1972	83061
T73 Integrally Stiffened	E	R.T.	L-S	74.8	3.5% NaCl	CT	2	1	3	---	28.1	26.7	17130	1972	83061
			S-L	68.6	3.5% NaCl	CT	2	1	3	---	20.3	19.4	40230	1972	83061
T7352	F	R.T.	L-T	67	F.C.S.	DCB	5.5	1	3	---	41	>27.5	76200	1976	RI006
						DCB	5.5	1	3	---	41	>28.5	76140	1976	RI006
					S.C.S.	DCB	5.5	1	3	---	41	>25.5	76200	1976	RI006
						DCB	5.5	1	3	---	41	27.6	76200	1976	RI006
					S.T.W.	DCB	5.5	1	3	---	41	21	133680	1976	RI006
			T-L	64	S.T.W.	DCB	5.5	1	3	---	41	19.5	133680	1976	RI006
						DCB	5.5	1	3	---	41	>21.5	133680	1976	RI006
						DCB	5.5	1	3	---	41	>20	133680	1976	RI006
						DCB	5.5	1	3	---	41	19	133680	1976	RI006
			S-L	62	S.T.W.	DCB	5.5	1	3	---	39	17.5	133680	1976	RI006
						DCB	5.5	1	3	---	39	>17.5	133680	1976	RI006
						DCB	5.5	1	3	---	39	>22.5	61680	1976	RI006
						DCB	5.5	1	3	---	39	17	133680	1976	RI006

TABLE 8.7.1.1

MEAN PLANE STRAIN FRACTURE TOUGHNESS FOR ALUMINUM 7000/8000 SERIES ALLOY 7050 AT ROOM TEMPERATURE

Product Form	Condition/Heat Treatment	K_{Ic} ($ksi\sqrt{in}$)								
		Specimen Orientation								
		L-T			T-L			S-L		
		Mean K_{Ic}	Std Dev	n	Mean K_{Ic}	Std Dev	n	Mean K_{Ic}	Std Dev	n
Plate	T7351	34.8	3.9	31	30.	2.6	29	28.	1.3	30
	T73651	31.9	3.9	86	28.7	4.7	83	23.5	1.5	35
	T7651	33.4	2.8	6	---	---	---	---	---	---
Forging	T736	32.3	2.3	4	23.4	1.	4	24.6	0.6	6
	T73652	31.1	2.5	11	20.7	1.4	13	19.2	1.4	17
	T7452	31.1	1.2	2	23.5	3.	3	---	---	---
	T7E56	---	---	---	28.9	3.9	4	---	---	---
Extrusion	T74511	40.4	5.	4	---	---	---	---	---	---
	T76511	34.8	5.5	3	---	---	---	---	---	---
Extruded Bar	T73511-HIGH PURITY	36.2	3.2	2	24.1	0.2	2	---	---	---

TABLE 8.7.1.2.1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: 3.5% NaCl**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) *ΔK Level (Ksi√in)* 2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	0.1	2			23.7	184.42		
		0.1	20		0.86	12.08	72.27		
T73651	EXTRUSION	0.1	2			6.65	48.2		
T7651	PLATE	0.1	2			23.19	140.59		
		0.1	20		1.23	22.25			
T76511	EXTRUSION	0.1	2			10.86	183.75		
		0.1	20		0.34	13.32	103.22		

TABLE 8.7.1.2.2

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: Distilled Water**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK Level (Ksi√in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T74511	EXTRUSION	0.1	1		0.73	6.33	52.15		
		0.8	1		1.95				
T7452	FORGING	0.1	1			5.04	86.01		
		0.8	1	0.32	2.34				
T7651	PLATE	0.05	1		0.42	5.23	46.29		
		0.8	1	0.31	2.71				
T76511	EXTRUSION	0.1	1		0.28	8.43	72.74		
		0.8	1	0.49	5.16				

TABLE 8.7.1.2.3

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: Dry Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle) ΔK Level (Ksi√in) 2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	0.33	2-20			7.17	63.03		
T736	FORGING	0.1	20				29.13		
T73651	PLATE	0.1	20			9.52			
T76	SHEET	0.33	13.3			13.36			
T7651	PLATE	0.1	20			9.17	40.72		

TABLE 8.7.1.2.4

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: H.H.A.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi√in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	0.1	2			6.79	41.88		
T73511	EXTRUSION	0.1	2			5.27	45.31		
		0.1	15		0.44	5.89			
		0.1	10-20			5.23	47.72		
		0.1	50		0.24				
		0.33	15		0.61	8.44			
		0.33	20		0.61	9.58			
		0.5	15	0.12	0.9	11.63			
T73511-HIGH PURITY	EXTRUSION	0.1	30			11.91			
T7351X	EXTRUSION	0.33	20		1.14	15.95			
T73651	PLATE	0.33	18.3			10.79			
		0.33	25	0.05	1.2	13.68	76.48		
		0.33	25	0.08					
	EXTRUSION	0.1	20		0.33	5.73	48.83		
T76	SHEET	0.33	13.3			28.6			

TABLE 8.7.1.2.4 (CONCLUDED)

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: H.H.A.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK Level (Ksi√in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7651	PLATE	0.1	2			7.97	68.9		
		0.1	20		0.33	9.64	51.87		
T76511	EXTRUSION	0.1	2			4.3	51.72		
		0.1	20		0.17	4.22	47.11		
		0.33	18.3		0.84	14.68			
		0.33	18.3			13.81			
T7651X	EXTRUSION	0.33	20		1.06	14.83			

TABLE 8.7.1.2.5

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: JP-4 Jet Fuel**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK *Level* (*Ksi*$\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7651	PLATE	0.02	1-20			3.57	35.15		

TABLE 8.7.1.2.6

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: L.H.A.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} *in/cycle*) ΔK *Level* (*Ksi√in*) 2.5	5.0	10.0	20.0	50.0	100.0
T73	FORGING	0.08	6				11.57		
T73511	EXTRUSION	0.1	10-30		0.23	2.64	29.84		
		0.33	7.5-15		0.32	1.8			
		0.5	8-50	0.09	0.78	10.17			
T7351X	EXTRUSION	0.33	20		0.49	3.47			
T73651	PLATE	0.08	6			2.41	23.92		
		0.3	6		0.37	4.69			
		0.33	18.3			8.06			
		0.5	6			12.96			
T76511	EXTRUSION	0.33	18.3		0.4	3.85			
		0.33	18.3			2.79			
		0.46	18.3			9.9			
T7651X	EXTRUSION	0.33	20		0.42	3.15			
		0.33	20		0.49	3.31			

TABLE 8.7.1.2.7

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: Lab Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) *ΔK Level* ($Ksi\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73511	EXTRUSION	0.1	10			5.37	49.71		
T73511-HIGH PURITY	EXTRUSION	0.1	30			6.18			
T736	FORGING	0.1	3-10			12.17	59.43		
T73651	PLATE	0.1	5			4.67	44.92		
		0.1	5-10			7.23	46.45		
		0.1	3-20			9	56.77		
		0.1	25		0.68	3.34	36.26		
T74	HAND FORGING	0.1	20			5.01	50.71		
		0.1	30		0.15				
		0.5	20		1.08	11.16			
		0.8	20		2.18				
T7451	PLATE	-1	10		0.89	5.51			
		-1	10		1.19	7.59			
		-0.66	10		0.67	5.05	39.63		
		-0.33	10		0.6	5.47	31.02		
		0.	10		0.48	6.2			

TABLE 8.7.1.2.7 (CONTINUED)

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: Lab Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle) ΔK Level (Ksi√in) 2.5	5.0	10.0	20.0	50.0	100.0
T7451 (Cont'd)	PLATE (Cont'd)	0.	10		0.52	5.29	41.81		
		0.02	10		0.44	6.49	45.2		
		0.02	15			5.4	37.98		
		0.55	10	0.14	1.75	15.73			
T74511	EXTRUSION	0.1	1			7.5			
		0.1	5		0.41	7.55			
		0.1	5-10	0.14	1.48				
		0.1	20	0.05	0.46	7.39	49.87		
		0.1	20	0.05	0.61	7.38			
		0.1	20-30	0.09	1.01				
		0.1	---		0.44	5.92			
		0.4	5-10	0.1	0.9	9.71			
		0.4	20	0.12	1.23				
		0.5	20		1.21	10.49			
		0.5	25	0.1	1.23				
		0.8	10			29.64			

TABLE 8.7.1.2.7 (CONTINUED)

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: Lab Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK Level (Ksi√in) 2.5	5.0	10.0	20.0	50.0	100.0
T74511 (Cont'd)	EXTRUSION (Cont'd)	0.8	20		2.28				
		0.8	20		1.71				
		0.8	20	0.17	1.69				
		0.8	---	0.23	3.03				
T745111	EXTRUSION	0.1	20		0.4	6.37	52.8		
T7452	FORGING	0.	5-20	0.27	2.29	8.15	36.94		
		0.1	5		0.58	5.2			
		0.1	5			6.88	55.77		
		0.1	5-15		0.52	7.54	45.45		
		0.1	20		0.14	4.82	57.73		
		0.4	5-15	0.09	0.83	11.73			
		0.4	20		0.32	7.08			
		0.8	5		4.72				
		0.8	5-30	0.19	2.56				
T76	SHEET	0.	13.3			7.46	40.29		
		0.33	13.3			10.38	69.05		

TABLE 8.7.1.2.7 (CONTINUED)

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: Lab Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK *Level* ($Ksi\sqrt{in}$) 2.5	5.0	10.0	20.0	50.0	100.0
T7651	PLATE	-1	2-10				0.16	6.3	
		0.	1					922.41	
		0.02	1-20		0.53	8.33	24.44		
		0.05	2			5.11			
		0.05	5	0.1	0.88	5.85	40.21	824.71	
		0.1	5	0.09	0.49	6.04			
		0.4	5		1.35	9.51			
		0.4	15	0.09	1.12	9.32			
		0.4	5-20	0.11	1.35				
		0.4	---	0.13	1.22				
		0.8	10	0.21	2.7				
		0.8	10		2.78				
		0.8	15	0.18	1.17				
T76511	EXTRUSION	-1	2-10		0.3	5.51			
		0.1	1				57.88		
		0.1	5	0.12	0.9	7.91			

TABLE 8.7.1.2.7 (CONCLUDED)

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: Lab Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK Level (Ksi√in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T76511 (Cont'd)	EXTRUSION (Cont'd)	0.1	5	0.09	0.79	5.49			
		0.1	20	0.07	0.62	7.31	42.94		
		0.4	1			10.38			
		0.4	5-10	0.14					
		0.4	20	0.07	1.12	7.89			
		0.8	5	0.23	3.81				
		0.8	20	0.16	1.93				

TABLE 8.7.1.2.8

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: S.S.W.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK *Level* ($Ksi\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73651	PLATE	0.1	1-10		1.46	17.85	160.17		
T7651	PLATE	0.02	5-15			11.64	52.99		
		0.02	1-20			9.96	61.37		

TABLE 8.7.1.2.9

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: S.T.W.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) *ΔK Level* ($Ksi\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	0.33	2-20			22.2			
T73651	PLATE	0.1	1-10		1.2	18.1	78.31		
T74511	EXTRUSION	0.1	1			13.91	48.78		
		0.1				18.71	102.25		
		0.4	1		2.32				
		0.8	1		3.92				
		0.8			9.49				
T76511	EXTRUSION	0.1	1			16.72	80.35		
		0.1	20			21.32			
		0.4	1		2.83	21.58			
		0.8	1		6.41				

TABLE 8.7.1.2.10

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: Salt Fog**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				Δ*K Level* (*Ksi*√*in*)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73651	PLATE	0.33	18.3			16.83			
T76	SHEET	0.33	13.3			34.2			
T76511	EXTRUSION	0.33	18.3		2.73	20.65			

TABLE 8.7.1.2.11

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: Distilled Water**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK Level (*Ksi√in*)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7452	FORGING	0.1	1		0.34	7.08			

TABLE 8.7.1.2.12

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: Dry Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK *Level* (*Ksi*$\sqrt{in}$) 2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	0.33	1.5-15			8.18			
T73652	FORGING	0.33	18.3			8.9			
T76	SHEET	0.33	13.3		1	7.22			

TABLE 8.7.1.2.13

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: H.H.A.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle) ΔK Level (Ksi√in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T6	SHEET	0.33	13.3			20.06	210.68		
	EXTRUSION	0.33	13.3			20.37			
T6-412972	SHEET	0.33	13.3			23.13	172.93		
T7351	PLATE	0.33	2-20			11.77			
T73511	EXTRUSION	0.33	15		0.57	11.12			
		0.33	10-20		0.42	10.74			
		0.5	20	0.03	0.57				
		0.5	10-30	0.04	0.53	18.8			
T7351X	EXTRUSION	0.33	20		1.1	17.4			
		0.33	20		0.91	14.2			
T73651	PLATE	0.33	18.3		0.67	13.95			
T73652	FORGING	0.33	18.3			15.71			
T76	SHEET	0.33	13.3			16.59			
T76511	PLATE	0.33	18.3			12.78			
	EXTRUSION	0.33	18.3			18.41			
T7651X	EXTRUSION	0.33	20		0.95	15.8			

TABLE 8.7.1.2.14

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: L.H.A.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle) ΔK Level (Ksi√in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T6	SHEET	0.33	13.3			11.81	115.01		
T73511	EXTRUSION	0.33	7.5-15		0.37	5.77			
		0.5	10-40	0.04	0.27	5.33			
T7351X	EXTRUSION	0.33	20		0.63	6.9			
		0.33	20		0.54	8.33			
T73651	PLATE	0.08	6		0.24	2.93			
		0.33	18.3		0.36	6.26			
T76511	EXTRUSION	0.33	18.3		0.52	5.63			
T7651X	EXTRUSION	0.33	20			4.87			

TABLE 8.7.1.2.15

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: Lab Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) *ΔK Level (Ksi√in)* 2.5	5.0	10.0	20.0	50.0	100.0
T73511-HIGH PURITY	EXTRUSION	0.1	30			3.74			
T736	FORGING	0.1	10			6.94	98.63		
T73651	PLATE	0.1	5-10			8.05	47.14		
T7452	FORGING	0.1	5-15	0.09	0.75	7.5			
		0.4	5-20		0.82				
		0.8	10-15	0.18					

TABLE 8.7.1.2.16

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE**

ORIENTATION: T-L **ENVIRONMENT: S.S.W.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK *Level* ($Ksi\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73651	PLATE	0.1	1-10		1.97	17.58	143.62		

TABLE 8.7.1.2.17

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: S.T.W.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle) ΔK Level (Ksi√in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	0.33	2-20		1.83	20.89			
T73651	PLATE	0.08	1			13.33			
		0.1	1-10		1.12	16.19	97.04		

TABLE 8.7.1.2.18

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: Salt Fog**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK Level (*Ksi√in*)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73651	PLATE	0.03	18.3			7.56	101.74		
		0.33	18.3			16.78			
T73652	FORGING	0.33	18.3			29.86			
T76	SHEET	0.33	13.3			26.19			
T76511	EXTRUSION	0.33	18.3			22.43			

TABLE 8.7.1.2.19

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: S-T **ENVIRONMENT: H.H.A.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK *Level* ($Ksi\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7351X	EXTRUSION	0.33	20		1.06	10.76			

TABLE 8.7.1.2.20

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: S-T **ENVIRONMENT: L.H.A.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				Δ*K Level* (*Ksi*√*in*)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7351X	EXTRUSION	0.33	20		0.7	3.33			

TABLE 8.7.1.2.21

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: S-T **ENVIRONMENT: Lab Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK Level ($Ksi\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73651	PLATE	0.1	1-10			6.44	91.86		

TABLE 8.7.1.2.22

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: S-T **ENVIRONMENT: S.S.W.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK Level (Ksi√in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73651	PLATE	0.1	1-10		1.56	20.07	190.92		

TABLE 8.7.1.2.23

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: S-L **ENVIRONMENT: Dry Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK *Level* ($Ksi\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	0.33	1.5-15			7.62			

TABLE 8.7.1.2.24

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE

ORIENTATION: S-L **ENVIRONMENT: H.H.A.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK *Level* ($Ksi\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	0.33	10-20			12.42			
T73651	PLATE	0.33	18.3			12.5			

TABLE 8.7.1.2.25

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: S-L **ENVIRONMENT: L.H.A.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi√in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73651	PLATE	0.33	18.3			4.05			

TABLE 8.7.1.2.26

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE

ORIENTATION: S-L **ENVIRONMENT: S.T.W.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK *Level* (*Ksi*$\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	0.33	20			19.67			

TABLE 8.7.1.2.27

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE

ORIENTATION: S-L ENVIRONMENT: Salt Fog

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK *Level* (*Ksi*√*in*)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73651	PLATE	0.33	18.3			15.52			

TABLE 8.7.1.2.28

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 AT ROOM TEMPERATURE

ORIENTATION: Unspecified **ENVIRONMENT: 3.5% NaCl**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				Δ*K Level (Ksi√in)*					
				2.5	5.0	10.0	20.0	50.0	100.0
T736	FORGING	0.1	1			18.1			
T73651	PLATE	0.1	1			22.62			
T7651	PLATE	0.1	1			21.41			

TABLE 8.7.2.1

ALUMINUM 7050 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	$2.5 * (K_{Ic}/TYS)^2$ (in.)	K_{Ic} K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} K_{Ic} MEAN	K_{Ic} STAN DEV	DATE	REFER
		2.00			60.4	4.000	2.000	CT	2.020	1.29	43.40			1977	AL001
		6.00			60.4	4.000	2.000	CT	2.050	0.77	33.60			1977	AL001
		6.00			60.4	4.000	2.000	CT	2.040	0.77	33.50			1977	AL001
		2.00			60.4	4.000	2.000	CT	2.010	1.18	41.50			1977	AL001
		6.00			60.4	4.000	2.000	CT	2.060	0.77	33.60			1977	AL001
		2.00			60.4	4.000	2.000	CT	2.010	1.27	43.00			1977	AL001
		2.00			61.1	4.000	2.000	CT	2.030	1.03	39.30			1977	AL001
		2.00			61.1	4.000	2.000	CT	2.020	1.04	39.50			1977	AL001
		2.00			61.1	4.000	2.000	CT	2.030	1.03	39.30			1977	AL001
		6.00			62.2	4.000	2.000	CT	2.020	0.53	28.60			1977	AL001
		6.00			62.2	4.000	2.000	CT	2.040	0.54	28.90			1977	AL001
T7351	Plate	6.00	R.T.	L-T	62.2	4.000	2.000	CT	2.010	0.55	29.10	34.8	3.9	1977	AL001
		5.12			63.2	4.000	2.000	CT	2.000	0.55	29.70			1977	AL001
		5.12			63.2	4.000	1.980	CT	2.000	0.54	29.30			1977	AL001
		5.12			63.2	4.000	2.000	CT	2.000	0.54	29.30			1977	AL001
		5.00			63.7	4.000	2.000	CT	2.060	0.72	34.30			1977	AL001
		4.00			63.7	4.000	2.000	CT	2.060	0.72	34.20			1977	AL001
		5.00			63.7	4.000	2.000	CT	2.030	0.69	33.40			1977	AL001
		5.00			63.7	4.000	2.000	CT	2.050	0.68	33.30			1977	AL001
		4.00			63.7	4.000	2.000	CT	2.050	0.78	35.50			1977	AL001
		3.00			63.7	3.000	1.500	CT	1.560	0.75	34.80			1977	AL001
		3.00			63.7	3.000	1.500	CT	1.560	0.72	34.30			1977	AL001
		4.00			63.7	4.000	2.000	CT	2.090	0.82	36.40			1977	AL001

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV		
		4.00			63.7	4.000	2.000	CT	2.050	0.71	34.00			1977	AL001
		4.00			63.7	4.000	2.000	CT	2.080	0.72	34.30			1977	AL001
		3.00			63.7	3.000	1.500	CT	1.560	0.75	35.00			1977	AL001
T7351 Cont'd	Plate Cont'd	4.00	R.T. Cont'd	L-T Cont'd	63.7	4.000	2.000	CT	2.060	0.82	36.50	Cont'd	Cont'd	1977	AL001
		3.00			63.9	3.000	1.500	CT	1.570	0.75	35.10			1977	AL001
		3.00			63.9	3.000	1.500	CT	1.570	0.79	35.90			1977	AL001
		3.00			63.9	3.000	1.500	CT	1.570	0.73	34.50			1977	AL001
		1.00			69.8	2.000	1.004	CT	1.000	0.70	36.90			1974	88186
		6.00			59.1	4.000	2.000	CT	2.080	0.63	29.60			1977	AL001
		6.00			59.1	4.000	2.000	CT	2.090	0.66	30.30			1977	AL001
		6.00			59.1	4.000	2.000	CT	2.070	0.64	29.80			1977	AL001
		2.00			60.4	4.000	2.000	CT	2.060	0.82	34.50			1977	AL001
		2.00			60.4	4.000	2.000	CT	2.070	0.82	34.60			1977	AL001
		2.00			60.4	4.000	2.000	CT	2.060	0.87	35.60			1977	AL001
T7351	Plate	6.00	R.T.	T-L	60.9	4.000	2.000	CT	2.050	0.47	26.30	30.0	2.6	1977	AL001
		6.00			60.9	4.000	2.000	CT	2.080	0.48	26.60			1977	AL001
		2.00			60.9	4.000	2.000	CT	2.070	0.71	32.40			1977	AL001
		2.00			60.9	4.000	2.000	CT	2.070	0.72	32.60			1977	AL001
		2.00			60.9	4.000	2.000	CT	2.050	0.70	32.20			1977	AL001
		6.00			60.9	4.000	2.000	CT	2.050	0.48	26.70			1977	AL001
		5.12			61.4	4.000	2.000	CT	2.020	0.41	24.90			1977	AL001
		5.12			61.4	4.000	2.000	CT	2.050	0.41	25.00			1977	AL001

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	$2.5 * (K_{Ic}/TYS)^2$ (in.)	K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV	DATE	REFER
T7351 Cont'd	Plate Cont'd	4.00	R.T. Cont'd	T-L Cont'd	63.4	4.000	2.000	CT	2.080	0.54	29.40	Cont'd	Cont'd	1977	AL001
		4.00			63.4	4.000	2.000	CT	2.090	0.59	30.80			1977	AL001
		4.00			63.4	4.000	2.000	CT	2.100	0.58	30.50			1977	AL001
		4.00			63.4	4.000	2.000	CT	2.040	0.54	29.40			1977	AL001
		4.00			63.4	4.000	2.000	CT	2.090	0.51	28.60			1977	AL001
		4.00			63.4	4.000	2.000	CT	2.100	0.58	30.60			1977	AL001
		3.00			63.7	3.000	1.500	CT	1.560	0.57	30.30			1977	AL001
		5.00			63.7	4.000	2.000	CT	2.120	0.53	29.40			1977	AL001
		3.00			63.7	3.000	1.500	CT	1.580	0.55	30.00			1977	AL001
		3.00			63.7	3.000	1.500	CT	1.580	0.55	29.90			1977	AL001
		5.00			63.7	4.000	2.000	CT	2.110	0.54	29.70			1977	AL001
		5.00			63.7	4.000	2.000	CT	2.100	0.53	29.40			1977	AL001
		3.00			64.2	3.000	1.500	CT	1.590	0.55	30.10			1977	AL001
		3.00			64.2	3.000	1.500	CT	1.590	0.56	30.40			1977	AL001
		3.00			64.2	3.000	1.500	CT	1.600	0.57	30.60			1977	AL001
T7351	Plate	2.00	R.T.	S-L	55.3	1.500	0.750	CT	0.770	0.73	29.90	28.0	1.3	1977	AL001
		2.00			55.3	1.500	0.750	CT	0.770	0.68	28.80			1977	AL001
		2.00			55.3	1.500	0.750	CT	0.770	0.73	29.90			1977	AL001
		2.00			55.6	1.500	0.750	CT	0.770	0.61	27.50			1977	AL001
		2.00			55.6	1.500	0.750	CT	0.770	0.55	26.00			1977	AL001
		2.00			55.6	1.500	0.750	CT	0.780	0.62	27.70			1977	AL001
		6.00			56.3	3.000	1.500	CT	1.510	0.69	29.50			1977	AL001

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV		
T7351 Cont'd	Plate Cont'd	6.00	R.T. Cont'd	S-L Cont'd	56.3	3.000	1.500	CT	1.520	0.70	29.70	Cont'd	Cont'd	1977	AL001
		6.00			56.3	3.000	1.500	CT	1.520	0.66	28.90			1977	AL001
		6.00			58.1	3.000	1.500	CT	1.550	0.53	26.80			1977	AL001
		6.00			58.1	3.000	1.500	CT	1.530	0.50	26.10			1977	AL001
		6.00			58.1	3.000	1.500	CT	1.540	0.53	26.70			1977	AL001
		5.12			58.6	3.000	1.500	CT	1.500	0.47	25.50			1977	AL001
		5.12			58.6	3.000	1.500	CT	1.520	0.50	26.20			1977	AL001
		5.12			58.6	3.000	1.500	CT	1.530	0.49	26.00			1977	AL001
		5.00			58.8	3.000	1.500	CT	1.540	0.60	28.90			1977	AL001
		5.00			58.8	3.000	1.500	CT	1.520	0.58	28.20			1977	AL001
		5.00			58.8	3.000	1.500	CT	1.530	0.56	27.90			1977	AL001
		4.00			59.0	3.000	1.500	CT	1.530	0.58	28.50			1977	AL001
		4.00			59.0	3.000	1.500	CT	1.530	0.55	27.70			1977	AL001
		4.00			59.0	3.000	1.500	CT	1.530	0.62	29.40			1977	AL001
		4.00			60.0	3.000	1.500	CT	1.540	0.59	29.20			1977	AL001
		4.00			60.0	3.000	1.500	CT	1.530	0.59	29.10			1977	AL001
		4.00			60.0	3.000	1.500	CT	1.540	0.58	28.90			1977	AL001
		3.00			60.1	2.500	1.250	CT	1.280	0.51	27.20			1977	AL001
		3.00			60.1	2.500	1.250	CT	1.280	0.50	27.00			1977	AL001
		3.00			60.1	2.500	1.250	CT	1.270	0.53	27.80			1977	AL001
		3.00			61.4	2.500	1.250	CT	1.270	0.53	28.30			1977	AL001
		3.00			61.4	2.500	1.250	CT	1.270	0.48	27.00			1977	AL001
		3.00			61.4	2.500	1.250	CT	1.280	0.53	28.40			1977	AL001

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV		
T73511-HIGH/ PURITY	Extruded Bar	1.50	R.T.	L-T	72.1	2.500	1.250	CT	---	0.71	38.40	36.2	3.2	1980	WA001
		1.50			72.1	2.500	1.250	CT	---	0.55	33.90			1980	WA001
T73511-HIGH/ PURITY	Extruded Bar	1.50	R.T.	T-L	66.6	2.500	1.250	CT	---	0.33	24.20	24.1	0.2	1980	WA001
		1.50			66.6	2.500	1.250	CT	---	0.32	23.90			1980	WA001
T7352	Forging	6.00	R.T.	S-L	62.4	4.000	2.000	CT	2.148	0.25	19.80	---	---	1973	86213
T7352	Forging	5.00	82	L-T	64.0	3.000	1.502	CT	1.510	0.63	32.00	---	---	1973	86213
T7352	Forging	5.00	82	T-L	62.1	3.000	1.502	CT	1.588	0.21	18.00	18.3	0.4	1973	86213
		5.00			62.1	3.000	1.502	CT	1.580	0.22	18.50			1973	86213
T7352	Forging	5.00	82	S-L	59.0	3.000	1.501	CT	1.574	0.34	21.90	21.9	0.0	1973	86213
		5.00			59.0	3.000	1.502	CT	1.578	0.34	21.90			1973	86213
T736	Forging	3.00	R.T.	L-T	63.6	1.996	1.000	CT	1.047	0.58	30.79	32.3	2.3	1976	NC001
		3.00			63.6	1.998	1.001	CT	1.054	0.62	31.70			1976	NC001
		3.00			63.6	2.001	1.001	CT	1.049	0.59	31.11			1976	NC001
		---			69.0	1.400	0.696	CT	0.674	0.66	35.70			1973	85880
T736	Forging	6.00	R.T.	T-L	61.4	4.000	1.506	CT	---	0.35	22.90	23.4	1.0	1973	91123
		3.00			62.2	2.003	1.001	CT	1.082	0.39	24.82			1976	NC001
		3.00			62.2	2.001	0.999	CT	1.054	0.35	23.44			1976	NC001
		3.00			62.2	1.996	0.999	CT	1.042	0.32	22.40			1976	NC001
T736	Forging	3.00	R.T.	S-T	61.2	2.002	1.000	CT	1.060	0.41	24.84	24.3	1.0	1976	NC001
		3.00			61.2	2.000	1.000	CT	1.050	0.35	23.08			1976	NC001
		3.00			61.2	1.999	1.000	CT	1.070	0.41	24.90			1976	NC001

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K_{Ic}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_Q/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_Q (Ksi * $\sqrt{in.}$)	K_Q MEAN	STAN DEV		
T736	Forging	6.00	R.T.	S-L	62.4	4.000	1.509	CT	---	0.41	25.30	24.6	0.6	1973	91123
		6.00			62.4	4.000	1.509	CT	---	0.39	24.60			1973	91123
		6.00			62.4	---	2.000	CT	1.930	0.41	25.30			1973	86212
		6.00			62.4	4.000	1.509	CT	---	0.37	24.00			1973	91123
		6.00			62.4	---	2.000	CT	1.980	0.39	24.60			1973	86212
		6.00			62.4	---	2.000	CT	1.950	0.37	24.00			1973	86212
T736	Forging	---	R.T.	C-L	68.5	1.390	0.702	CT	0.687	0.47	29.80	30.2	0.5	1973	85880
		---			68.5	1.400	0.699	CT	0.693	0.49	30.50			1973	85880
T736	Forging	6.00	82	L-T	61.9	3.000	1.499	CT	1.608	1.27	44.10	36.8	6.9	1973	86213
		7.10			63.5	2.000	0.999	CT	0.982	0.47	27.60			1973	86213
		7.10			65.1	2.000	1.001	CT	1.015	0.79	36.60			1973	86213
		4.25			69.3	3.000	1.499	CT	1.617	0.78	38.70			1973	86213
T736	Forging	6.00	82	T-L	66.6	0.990	0.499	CT	0.512	0.22	19.70	---	---	1973	86213
T736	Forging	7.10	82	S-L	63.4	2.000	0.999	CT	1.020	0.28	21.20	23.0	2.8	1973	86213
		7.10			63.4	2.000	0.999	CT	1.012	0.27	20.90			1973	86213
		6.00			64.2	2.000	1.000	CT	1.051	0.42	26.20			1973	86213
		6.00			64.2	2.000	0.999	CT	1.058	0.44	26.80			1973	86213
		7.10			64.2	2.000	0.999	CT	0.996	0.27	21.10			1973	86213
		0.60			64.5	1.500	0.635	CT	0.763	0.28	21.50			1973	86213
T73651	Plate	1.00	-65	L-T	75.7	2.000	1.005	CT	1.030	0.53	34.90	35.1	0.2	1974	88174
		1.00			75.7	2.000	1.003	CT	1.039	0.54	35.20			1974	88174
T73651	Plate	1.00	-65	T-L	75.0	2.000	1.006	CT	1.048	0.41	30.40	30.2	0.3	1974	88174
		1.00			75.0	2.000	1.005	CT	1.027	0.40	30.00			1974	88174

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_Q/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_Q (Ksi * $\sqrt{in.}$)	K_Q MEAN	STAN DEV		
T73651	Plate	1.00	0	L-T	73.4	2.000	1.005	CT	1.028	0.61	36.40	37.2	1.1	1974	88174
		1.00			73.4	1.990	1.003	CT	1.040	0.67	38.00			1974	88174
T73651	Plate	1.00	0	T-L	72.7	2.000	1.005	CT	1.037	0.47	31.60	31.3	0.2	1974	88174
		1.00			72.7	2.000	1.004	CT	1.024	0.46	31.30			1974	88174
		1.00			72.7	2.000	1.004	CT	1.028	0.46	31.20			1974	88174
		1.00			72.7	2.000	1.007	CT	1.030	0.46	31.20			1974	88174
T73651	Plate	5.25	R.T.	L-T	58.9	1.998	1.001	CT	0.992	0.71	31.40	31.9	3.9	1977	RA010
		5.25			59.3	2.000	0.999	CT	0.963	0.67	30.90			1977	RA010
		5.00			60.3	4.000	2.010	CT	2.040	0.57	28.70			1975	AL015
		5.00			60.3	4.000	2.010	CT	2.050	0.57	28.90			1975	AL015
		6.00			61.0	2.000	1.001	CT	0.972	0.57	29.20			1977	RA009
		4.50			61.2	2.003	1.001	CT	0.962	0.57	29.29			1977	RA010
		5.25			61.3	1.999	1.000	CT	0.935	0.57	29.40			1977	RA010
		6.00			61.6	2.000	1.000	CT	0.966	0.76	34.00			1977	RA009
		6.00			61.7	1.997	0.999	CT	1.006	0.59	30.10			1977	RA009
		6.00			61.7	2.000	0.999	CT	0.962	0.59	30.10			1977	RA009
		5.25			62.0	1.999	0.997	CT	0.948	0.56	29.40			1977	RA010
		5.25			62.0	1.999	1.000	CT	0.950	0.60	30.40			1977	RA010
		6.00			62.2	1.998	0.998	CT	1.015	0.52	28.50			1977	RA009
		5.25			62.2	2.000	0.998	CT	0.993	0.55	29.29			1977	RA010
		5.25			62.3	2.000	0.999	CT	0.980	0.55	29.40			1977	RA010
		5.25			62.5	2.003	1.001	CT	0.989	0.51	28.29			1977	RA010
		6.00			62.7	1.997	1.000	CT	0.959	0.50	28.20			1977	RA009

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	$2.5 * (K_{Ic}/TYS)^2$ (in.)	K_{Ic} K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} K_{Ic} MEAN	K_{Ic} STAN DEV	DATE	REFER
T73651 Cont'd	Plate Cont'd	6.00	R.T. Cont'd	L-T Cont'd	62.7	1.999	1.001	CT	0.981	0.51	28.40	Cont'd	Cont'd	1977	RA009
		4.50			62.9	2.999	1.502	CT	1.492	0.67	32.59			1978	RA008
		5.25			63.1	1.998	0.999	CT	0.973	0.54	29.40			1977	RA010
		6.00			63.3	2.001	1.000	CT	0.963	0.57	30.29			1977	RA009
		6.00			63.4	1.998	1.001	CT	0.964	0.48	28.00			1977	RA009
		5.25			63.5	1.999	0.997	CT	0.993	0.54	29.70			1977	RA010
		6.00			63.6	2.001	1.001	CT	0.979	0.50	28.60			1977	RA009
		4.50			63.6	3.002	1.499	CT	1.530	0.54	29.70			1978	RA008
		5.00			63.7	4.000	2.000	CT	2.090	0.41	25.70			1975	AL015
		5.00			63.7	4.000	2.000	CT	2.080	0.40	25.50			1975	AL015
		6.00			63.8	2.000	1.000	CT	0.975	0.76	35.30			1977	RA009
		5.25			63.8	1.999	0.999	CT	0.972	0.53	29.40			1977	RA010
		6.00			63.8	1.999	1.001	CT	0.971	0.48	28.20			1977	RA009
		5.25			63.9	1.999	1.000	CT	0.956	0.48	28.10			1977	RA010
		4.50			63.9	2.999	1.498	CT	1.531	0.46	27.50			1978	RA008
		2.75			63.9	2.003	0.999	CT	1.000	0.53	29.60			1977	RA010
		5.25			64.0	2.003	1.000	CT	0.965	0.49	28.60			1977	RA010
		4.00			64.2	1.999	1.001	CT	1.008	0.46	27.79			1977	RA010
		4.00			64.4	1.998	0.997	CT	1.052	0.80	36.59			1977	RA009
		4.00			64.7	1.998	1.001	CT	1.010	0.57	31.10			1977	RA009
		4.00			65.0	3.000	1.502	CT	1.543	0.55	30.40			1973	85836
		4.00			65.0	3.000	1.499	CT	1.569	0.41	26.30			1973	85836

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic} K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} K_{Ic} MEAN	K_{Ic} STAN DEV	DATE	REFER
T73651 Cont'd	Plate Cont'd	4.00	R.T. Cont'd	L-T Cont'd	65.4	1.998	0.997	CT	0.980	0.78	36.70	Cont'd	Cont'd	1977	RA009
		6.00			65.4	2.000	1.001	CT	1.040	0.60	32.30			1977	RA009
		4.00			65.9	1.998	0.998	CT	1.001	0.59	32.09			1977	RA009
		3.00			66.9	2.010	1.000	CT	1.010	0.38	26.10			1973	86429
		3.00			66.9	1.990	1.000	CT	1.014	0.44	28.20			1973	86429,
		3.00			66.9	2.000	1.000	CT	1.018	0.42	27.30			1973	86429
		4.00			67.2	2.490	1.250	CT	1.279	0.74	36.80			1972	84363
		4.00			67.2	1.998	0.998	CT	1.003	0.73	36.50			1977	RA009
		4.00			67.2	1.998	0.997	CT	1.091	0.54	31.50			1977	RA009
		4.00			67.2	2.490	1.248	CT	1.234	0.64	34.20			1972	84363
		4.00			67.2	2.490	1.255	CT	1.264	0.67	35.00			1972	84363
		3.50			67.4	3.001	1.500	CT	1.455	0.59	33.00			1978	RA008
		2.00			67.8	1.998	0.994	CT	0.998	0.59	33.09			1977	RA009
		4.00			67.8	1.997	0.996	CT	1.009	0.51	30.79			1977	RA009
		3.50			67.8	3.000	1.496	CT	1.455	0.46	29.20			1978	RA008
		3.50			68.3	1.997	0.998	CT	1.091	0.63	34.50			1977	RA009
		3.50			68.5	1.998	0.997	CT	1.042	0.56	32.70			1977	RA009
		6.00			68.6	2.001	1.001	CT	0.941	0.58	33.09			1977	RA009
		3.15			69.0	2.001	1.007	CT	1.009	0.34	25.80			1976	NC001
		3.15			69.0	2.002	1.007	CT	0.993	0.34	25.72			1976	NC001
		3.15			69.0	2.002	1.007	CT	1.005	0.34	25.54			1976	NC001
		2.50			69.1	2.000	0.999	CT	1.027	0.45	29.60			1978	RA010

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV	DATE	REFER
T73651 Cont'd	Plate Cont'd	3.00	R.T. Cont'd	L-T Cont'd	69.6	2.003	1.001	CT	0.958	0.65	35.70	Cont'd	Cont'd	1977	RA010
		1.00			70.0	2.000	1.003	CT	1.027	0.71	37.40			1974	88174
		1.00			70.0	2.000	1.003	CT	1.035	0.65	35.70			1974	88174
		1.00			70.0	2.000	1.004	CT	1.034	0.69	36.80			1974	88174
		1.00			70.0	2.000	0.976	CT	---	0.66	36.00			1982	NC003
		1.00			70.0	2.000	0.976	CT	---	0.66	36.00			1982	NC003
		2.50			70.2	2.000	0.999	CT	1.076	0.40	28.29			1978	RA010
		1.00			70.8	2.000	1.003	CT	1.009	0.64	35.70			1973	86213
		1.00			70.8	2.000	0.998	CT	1.028	0.60	34.70			1973	86213
		1.00			70.8	2.000	0.998	CT	1.034	0.64	35.70			1973	86213
		2.00			71.6	1.998	0.992	CT	1.034	0.48	31.50			1977	RA009
		1.00			73.8	2.000	1.000	NB	0.964	0.62	36.90			1973	86493
		1.00			73.8	2.000	1.000	NB	0.992	0.61	36.40			1973	86493
		1.00			73.8	2.000	1.000	NB	0.990	0.66	37.80			1973	86493
		1.00			73.8	2.000	1.000	NB	1.000	0.65	37.70			1973	86493
		1.00			73.8	2.000	1.000	NB	1.010	0.70	39.10			1973	86493
		1.00			73.8	2.000	1.000	NB	1.010	0.70	39.10			1973	86493
		1.00			73.8	2.000	1.000	NB	1.000	0.65	37.70			1973	86493
		1.00			73.8	2.000	1.000	NB	0.964	0.62	36.90			1973	86493
		1.00			73.8	2.000	1.000	NB	0.992	0.61	36.40			1973	86493
		1.00			73.8	2.000	1.000	NB	1.000	0.65	37.70			1973	86493
		1.00			73.8	2.000	1.000	NB	1.000	0.65	37.70			1973	86493

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	2.5 * $(K_Q/TYS)^2$ (in.)	K_Q (Ksi * √in.)	K_Q MEAN	STAN DEV	DATE	REFER
T73651 Cont'd	Plate Cont'd	1.00	R.T. Cont'd	L-T Cont'd	73.8	2.000	1.000	NB	0.990	0.65	37.80	Cont'd	Cont'd	1973	86493
		1.00			75.0	2.490	1.003	CT	1.315	0.51	33.90			1973	86574
		1.00			75.0	2.500	1.003	CT	1.260	0.48	32.90			1973	86574
T73651	Plate	5.25	R.T.	T-L	59.0	1.999	1.001	CT	0.969	0.40	23.60	28.7	4.7	1977	RA010
		5.00			59.1	4.000	2.010	CT	2.130	0.47	25.70			1975	AL015
		5.00			59.1	4.000	2.000	CT	2.100	0.43	24.50			1975	AL015
		4.50			59.2	1.999	1.002	CT	0.983	0.59	28.90			1977	RA010
		5.25			59.9	2.000	0.998	CT	0.970	0.35	22.50			1977	RA010
		5.00			60.1	4.000	2.000	CT	2.130	0.41	24.40			1975	AL015
		6.00			60.1	2.002	1.002	CT	0.986	0.59	29.40			1977	RA009
		5.00			60.1	4.000	2.010	CT	2.080	0.43	24.50			1975	AL015
		5.25			60.2	2.003	1.000	CT	1.001	0.36	23.00			1977	RA010
		6.00			60.4	1.998	1.001	CT	1.018	0.56	28.60			1977	RA009
		5.25			60.5	1.999	0.999	CT	0.997	0.34	22.40			1977	RA010
		6.00			60.5	1.998	0.999	CT	1.030	0.55	28.50			1977	RA009
		6.00			60.6	1.997	0.999	CT	0.991	0.46	26.20			1977	RA009
		6.00			60.7	2.001	1.001	CT	0.979	0.54	28.40			1977	RA009
		5.25			61.1	1.999	0.998	CT	0.996	0.33	22.20			1977	RA010
		6.00			61.1	1.998	1.000	CT	1.027	0.53	28.10			1977	RA009
		6.00			61.4	1.999	1.000	CT	0.988	0.71	32.80			1977	RA009
		5.25			61.4	2.003	1.000	CT	1.015	0.43	25.70			1977	RA010
		5.25			61.6	2.000	1.000	CT	0.996	0.33	22.70			1977	RA010

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • $(K_Q/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_Q (Ksi • √in.)	K_Q MEAN	STAN DEV		
T73651 Cont'd	Plate Cont'd	4.50	R.T. Cont'd	T-L Cont'd	61.7	3.000	1.500	CT	1.483	0.77	34.30	Cont'd	Cont'd	1978	RA008
		6.00			61.8	2.000	1.000	CT	0.968	0.50	27.70			1977	RA009
		4.00			61.8	1.998	0.997	CT	1.006	0.60	30.29			1977	RA009
		6.00			61.8	2.000	1.001	CT	0.987	0.50	27.79			1977	RA009
		4.00			62.0	1.998	0.998	CT	0.994	0.57	29.70			1977	RA009
		5.25			62.1	2.000	1.000	CT	1.001	0.35	23.50			1977	RA010
		5.25			62.3	2.003	1.000	CT	0.997	0.39	24.70			1977	RA010
		5.25			62.4	2.001	0.999	CT	0.994	0.31	22.20			1977	RA010
		5.25			62.5	2.003	1.002	CT	1.006	0.30	22.00			1977	RA010
		4.00			62.6	1.998	0.998	CT	0.990	0.48	27.50			1977	RA009
		6.00			62.7	1.999	1.001	CT	0.968	0.50	28.20			1977	RA009
		6.00			62.7	2.001	1.001	CT	0.971	0.48	27.60			1977	RA009
		6.00			62.9	2.002	1.001	CT	0.955	0.49	27.90			1977	RA009
		4.00			62.9	1.999	1.000	CT	1.049	0.33	22.90			1977	RA010
		4.00			62.9	1.999	1.000	CT	1.049	0.33	22.90			1977	RA010
		4.00			63.2	1.997	1.000	CT	1.007	0.50	28.29			1977	RA009
		5.25			63.2	1.999	1.000	CT	0.989	0.30	22.10			1977	RA010
		2.75			63.4	2.003	0.999	CT	1.025	0.43	26.29			1977	RA010
		5.25			63.7	1.998	1.001	CT	0.993	0.28	21.40			1977	RA010
		6.00			63.9	1.999	1.000	CT	0.978	0.77	35.50			1977	RA009
		4.00			64.1	1.998	0.999	CT	0.964	0.65	32.90			1977	RA009
		5.25			64.1	1.999	0.999	CT	0.962	0.33	23.60			1977	RA010

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic} K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} K_{Ic} MEAN	K_{Ic} STAN DEV	DATE	REFER
T73651 Cont'd	Plate Cont'd	4.50	R.T. Cont'd	T-L Cont'd	64.3	3.002	1.490	CT	1.480	0.62	32.20	Cont'd	Cont'd	1978	RA008
		6.00			64.6	2.000	1.001	CT	0.961	0.51	29.40			1977	RA009
		6.00			64.6	2.001	0.999	CT	0.958	0.46	28.00			1977	RA009
		6.00			64.6	2.000	1.000	CT	0.964	0.51	29.40			1977	RA009
		4.00			65.0	2.990	1.502	CT	1.555	0.40	26.10			1973	85836
		4.00			65.0	3.000	1.499	CT	1.564	0.42	26.70			1973	85836
		6.00			65.0	1.997	0.999	CT	1.032	0.42	26.90			1977	RA009
		4.00			65.0	3.000	1.500	CT	1.540	0.54	30.30			1973	85836
		5.25			65.3	1.999	0.997	CT	0.969	0.27	21.50			1977	RA010
		4.00			65.5	1.997	0.999	CT	1.005	0.41	26.79			1977	RA009
		3.50			66.1	1.998	0.998	CT	1.050	0.44	28.00			1977	RA009
		3.50			66.2	3.000	1.499	CT	1.494	0.45	28.10			1978	RA008
		3.50			67.4	1.997	0.996	CT	1.032	0.44	28.40			1977	RA009
		3.50			67.6	3.000	1.501	CT	1.541	0.38	26.60			1978	RA008
		3.50			67.6	1.998	0.999	CT	1.073	0.35	25.40			1977	RA009
		2.00			68.2	1.998	0.994	CT	1.009	0.50	30.70			1977	RA009
		3.15			68.9	2.001	1.007	CT	1.019	0.35	25.91			1976	NC001
		3.15			68.9	2.001	1.007	CT	1.012	0.37	26.60			1976	NC001
		3.15			68.9	2.001	1.007	CT	1.031	0.31	24.55			1976	NC001
		3.00			68.9	2.003	1.000	CT	1.015	0.52	31.60			1977	RA010
		2.00			69.2	1.998	0.994	CT	1.030	0.41	28.29			1977	RA009
		2.50			69.7	2.001	0.999	CT	1.039	0.26	22.50			1978	RA010

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	$2.5 * (K_Q/TYS)^2$ (in.)	K_{Ic}: K_Q (Ksi * $\sqrt{in.}$)	K_{Ic}: K_Q MEAN	K_{Ic}: STAN DEV	DATE	REFER
		1.00			69.8	2.000	0.999	CT	1.035	0.54	32.40			1973	86213
		1.00			69.8	2.000	0.998	CT	1.032	0.49	31.00			1973	86213
		1.00			70.0	2.000	1.003	CT	1.032	0.49	31.00			1973	86213
		1.00			70.0	2.000	1.003	CT	1.030	0.52	31.80			1973	86213
		2.50			70.7	2.000	0.999	CT	1.094	0.35	26.79			1978	RA010
		1.00			72.2	2.000	1.004	CT	1.036	0.50	32.40			1974	88174
		1.00			72.2	2.000	1.005	CT	1.038	0.49	32.10			1974	88174
		1.00			72.2	2.000	1.005	CT	1.030	0.50	32.30			1974	88174
		1.00			72.5	2.000	1.000	NB	0.963	0.65	36.90			1973	86493
T73651 Cont'd	Plate Cont'd	1.00	R.T. Cont'd	T-L Cont'd	72.5	2.000	1.000	NB	0.963	0.65	36.90	Cont'd	Cont'd	1973	86493
		1.00			72.5	2.000	1.000	NB	0.997	0.64	36.70			1973	86493
		1.00			72.5	2.000	1.000	NB	0.978	0.68	37.80			1973	86493
		1.00			72.5	2.000	1.000	NB	0.978	0.68	37.80			1973	86493
		1.00			72.5	2.000	1.000	NB	0.990	0.63	36.30			1973	86493
		1.00			72.5	2.000	1.000	NB	0.963	0.65	36.90			1973	86493
		1.00			72.5	2.000	1.000	NB	0.963	0.65	36.90			1973	86493
		1.00			72.5	2.000	1.000	NB	1.000	0.67	37.70			1973	86493
		1.00			72.5	2.000	1.000	NB	1.000	0.68	37.70			1973	86493
		1.00			72.5	2.000	1.000	NB	0.990	0.63	36.30			1973	86493
		1.00			72.5	2.000	1.000	NB	0.997	0.64	36.80			1973	86493

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_Q/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_Q (Ksi * $\sqrt{in.}$)	K_Q MEAN	STAN DEV		
		6.00			55.8	2.000	1.001	CT	1.023	0.52	25.60			1977	RA009
		6.00			56.2	1.998	1.000	CT	1.077	0.60	27.60			1977	RA009
		6.00			56.4	1.999	1.000	CT	1.029	0.49	25.10			1977	RA009
		6.00			56.6	2.000	1.002	CT	1.035	0.44	24.00			1977	RA009
		6.00			56.8	2.001	1.001	CT	1.001	0.42	23.40			1977	RA009
		6.00			57.1	2.000	1.000	CT	0.947	0.53	26.40			1977	RA009
		6.00			57.6	2.001	1.002	CT	1.033	0.44	24.40			1977	RA009
		6.00			57.6	1.997	0.999	CT	0.993	0.36	22.10			1977	RA009
		6.00			58.1	1.997	1.001	CT	0.994	0.49	25.80			1977	RA009
		6.00			58.1	1.996	1.002	CT	1.035	0.59	28.40			1977	RA009
		6.00			58.4	2.000	1.000	CT	1.017	0.51	26.50			1977	RA009
T73651	Plate	6.00	R.T.	S-T	58.6	1.998	1.000	CT	0.975	0.35	22.10	23.9	1.9	1977	RA009
		6.00			58.7	2.000	1.000	CT	1.034	0.42	24.20			1977	RA009
		6.00			58.8	2.001	1.000	CT	1.066	0.44	24.79			1977	RA009
		6.00			59.0	2.001	1.000	CT	1.028	0.37	23.00			1977	RA009
		6.00			59.5	1.997	0.997	CT	0.996	0.38	23.50			1977	RA009
		6.00			60.5	2.000	1.000	CT	1.020	0.36	23.10			1977	RA009
		6.00			60.7	2.000	1.000	CT	1.048	0.40	24.50			1977	RA009
		4.00			61.0	1.998	0.998	CT	0.976	0.38	23.90			1977	RA009
		4.00			61.2	1.998	0.999	CT	0.996	0.46	26.40			1977	RA009
		4.00			61.6	1.998	0.996	CT	0.976	0.45	26.20			1977	RA009
		4.00			62.9	1.998	0.996	CT	0.963	0.36	23.90			1977	RA009
		4.00			64.1	1.998	0.994	CT	1.026	0.31	22.79			1977	RA009

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV		
T73651 Cont'd	Plate Cont'd	3.50	R.T. Cont'd	S-T Cont'd	64.2	1.998	0.999	CT	0.938	0.32	23.00	Cont'd	Cont'd	1978	RA008
		3.15			64.3	2.002	1.007	CT	1.020	0.24	20.33			1976	NC001
		3.15			64.3	2.002	1.007	CT	1.038	0.30	22.52			1976	NC001
		3.15			64.3	2.002	1.007	CT	1.066	0.25	20.73			1976	NC001
		2.50			64.8	2.001	0.999	CT	1.056	0.28	21.90			1978	RA010
		4.00			65.4	1.998	0.998	CT	0.979	0.27	21.79			1977	RA009
		3.50			65.9	2.000	0.998	CT	0.956	0.31	23.29			1978	RA008
		2.50			66.3	2.001	0.999	CT	1.028	0.30	23.00			1978	RA010
		3.50			66.3	1.997	0.997	CT	1.034	0.32	23.90			1977	RA009
		3.50			66.5	1.998	0.998	CT	1.050	0.31	23.60			1977	RA009
		3.50			67.1	1.997	0.995	CT	1.018	0.28	22.50			1977	RA009
T73651	Plate	5.25	R.T.	S-L	55.2	1.999	0.999	CT	0.924	0.43	22.90	23.5	1.5	1977	RA010
		4.50			56.1	2.003	1.000	CT	1.033	0.46	24.29			1977	RA010
		2.75			56.6	2.003	0.999	CT	0.982	0.44	23.79			1977	RA010
		5.25			56.8	2.003	1.000	CT	0.950	0.39	22.60			1977	RA010
		5.00			56.8	4.000	2.010	CT	2.070	0.47	24.70			1975	AL015
		5.00			56.8	4.000	2.010	CT	2.070	0.47	24.70			1975	AL015
		5.25			56.9	2.000	0.998	CT	1.005	0.40	22.79			1977	RA010
		5.25			57.0	1.999	1.000	CT	0.933	0.42	23.40			1977	RA010
		5.25			57.0	1.999	0.998	CT	0.944	0.41	23.20			1977	RA010
		5.25			57.1	1.999	0.999	CT	0.941	0.36	21.90			1977	RA010
		5.25			57.6	2.003	1.001	CT	0.946	0.40	23.29			1977	RA010
		5.25			57.8	2.003	1.001	CT	0.990	0.42	23.70			1977	RA010

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV		
T73651 Cont'd	Plate Cont'd	5.25	R.T. Cont'd	S-L Cont'd	58.0	2.003	1.000	CT	0.959	0.36	22.29	Cont'd	Cont'd	1977	RA010
		5.25			58.0	2.000	0.999	CT	0.938	0.42	23.90			1977	RA010
		5.25			58.1	2.003	0.970	CT	0.969	0.41	23.70			1977	RA010
		5.25			58.3	1.999	0.997	CT	0.968	0.43	24.40			1977	RA010
		5.25			58.6	2.000	1.000	CT	0.955	0.38	23.10			1977	RA010
		5.25			58.9	2.000	0.998	CT	0.966	0.37	22.79			1977	RA010
		5.00			59.3	4.000	2.000	CT	2.030	0.37	22.80			1975	AL015
		5.00			59.3	4.000	2.000	CT	2.030	0.37	22.90			1975	AL015
		5.25			59.6	1.999	1.002	CT	0.952	0.32	21.50			1977	RA010
		4.50			60.3	3.002	1.497	CT	1.550	0.44	25.29			1978	RA008
		5.25			60.6	1.998	0.999	CT	0.952	0.33	22.29			1977	RA010
		5.25			61.7	1.999	0.999	CT	0.990	0.28	20.79			1977	RA010
		4.00			61.7	2.003	0.999	CT	0.974	0.31	21.90			1977	RA010
		5.25			62.0	1.999	0.998	CT	0.937	0.29	21.40			1977	RA010
		4.00			63.7	2.980	1.500	CT	1.469	0.37	24.50			1973	86213
		4.00			63.7	2.990	1.500	CT	1.507	0.43	26.40			1973	86213
		3.00			64.0	1.990	1.000	CT	1.029	0.34	23.50			1973	86429
		3.00			64.0	2.000	1.000	CT	1.025	0.31	22.70			1973	86429
		3.00			64.0	1.990	1.000	CT	1.034	0.31	22.60			1973	86429
		4.00			65.0	3.000	1.502	CT	1.519	0.37	25.10			1973	85836
		4.00			65.0	3.000	1.501	CT	1.550	0.36	24.80			1973	85836
		4.00			65.0	3.000	1.500	CT	1.531	0.39	25.80			1973	85836
		3.00			66.4	2.003	1.001	CT	0.970	0.45	28.20			1977	RA010

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	$2.5 \cdot (K_{Ic}/TYS)^2$ (in.)	K_{Ic} (Ksi • $\sqrt{in.}$)	K_{Ic} MEAN	K_{Ic} STAN DEV	DATE	REFER
T73651	Plate	2.00	81	S-L	64.2	1.490	0.749	CT	0.760	0.40	25.60	25.6	0.0	1973	86213
		2.00			64.2	1.500	0.749	CT	0.743	0.40	25.60			1973	86213
T73651	Plate	4.00	82	L-T	63.7	4.000	1.998	CT	2.099	0.64	32.30	33.9	2.4	1973	86213
		4.00			63.7	4.000	1.998	CT	2.091	0.67	32.90			1973	86213
		4.00			65.2	4.000	1.996	CT	2.145	0.55	30.70			1973	86213
		4.00			65.2	3.990	1.999	CT	2.155	0.57	31.20			1973	86213
		2.00			65.9	4.000	1.997	CT	2.115	0.75	36.10			1973	86213
		2.00			65.9	4.000	1.997	CT	2.138	0.77	36.60			1973	86213
		2.00			67.0	4.000	1.996	CT	2.132	0.70	35.40			1973	86213
		2.00			67.0	4.000	1.997	CT	2.136	0.71	35.70			1973	86213
T73651	Plate	4.00	82	T-L	63.2	4.000	1.999	CT	2.126	0.46	27.10	27.9	1.2	1973	86213
		4.00			63.2	4.000	1.998	CT	2.167	0.47	27.30			1973	86213
		4.00			64.4	4.000	1.998	CT	2.124	0.41	26.20			1973	86213
		4.00			64.4	3.990	2.000	CT	2.109	0.43	26.60			1973	86213
		2.00			65.7	4.000	1.998	CT	2.156	0.49	29.20			1973	86213
		2.00			65.7	4.000	1.997	CT	2.166	0.50	29.40			1973	86213
		2.00			67.4	4.000	1.998	CT	2.123	0.46	28.80			1973	86213
		2.00			67.4	4.000	1.997	CT	2.130	0.45	28.50			1973	86213
T73651	Plate	1.00	84	L-T	65.4	2.000	0.999	CT	1.003	0.58	31.50	31.8	0.4	1973	86213
		1.00			65.4	2.000	0.998	CT	1.020	0.60	32.00			1973	86213
T73651	Plate	1.00	84	T-L	65.4	2.000	0.999	CT	0.974	0.39	25.90	26.6	0.8	1973	86213
		1.00			65.4	2.000	0.998	CT	0.994	0.40	26.00			1973	86213

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	$2.5*(K_{Ic}/TYS)^2$ (in.)	K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV	DATE	REFER
T73651 Cont'd	Plate Cont'd	0.50	84 Cont'd	T-L Cont'd	67.2	1.000	0.500	CT	0.511	0.40	26.80	Cont'd	Cont'd	1973	86213
		0.50			67.2	1.000	0.501	CT	0.505	0.42	27.50			1973	86213
T73651	Plate	4.00	84	S-L	59.7	3.000	1.498	CT	1.503	0.39	23.70	23.1	0.9	1973	86213
		2.00			61.5	1.490	0.748	CT	0.695	0.33	22.40			1973	86213
T73651	Plate	1.00	250	L-T	64.4	1.990	1.002	CT	1.034	0.85	37.50	37.3	0.3	1974	88174
		1.00			64.4	2.000	1.004	CT	1.036	0.83	37.10			1974	88174
T73652	Forging	3.50	R.T.	L-T	61.1	3.000	1.500	CT	1.630	0.74	33.30	31.1	2.5	1975	AL015
		3.50			61.1	3.000	1.500	CT	1.540	0.79	34.40			1975	AL015
		5.50			63.0	3.000	1.500	CT	1.510	0.63	31.50			1975	AL015
		5.50			63.0	3.000	1.500	CT	1.500	0.59	30.60			1975	AL015
		4.50			63.2	3.000	1.510	CT	1.510	0.60	30.90			264	AL015
		5.50			68.8	3.000	1.500	CT	1.520	0.56	32.50			1975	AL015
		5.50			68.8	3.000	1.500	CT	1.530	0.61	34.00			1975	AL015
		3.50			70.0	3.000	1.500	CT	1.560	0.47	30.20			1975	AL015
		3.50			70.0	3.000	1.500	CT	1.530	0.46	30.10			1975	AL015
		---			72.0	3.000	1.500	CT	1.670	0.38	28.00			1975	AL015
		---			72.0	3.000	1.500	CT	1.640	0.33	26.20			1975	AL015
T73652	Forging	4.50	R.T.	T-L	59.3	3.000	1.510	CT	1.540	0.31	20.90	20.7	1.4	1975	AL015
		4.50			59.3	3.000	1.510	CT	1.560	0.32	21.20			1975	AL015
		7.50			60.7	3.000	1.500	CT	1.560	0.23	18.40			1975	AL015
		3.50			60.8	3.000	1.500	CT	1.530	0.32	21.90			1975	AL015
		4.50			60.8	3.000	1.500	CT	1.580	0.25	19.10			1975	AL015

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	$2.5 \cdot (K_{Ic}/TYS)^2$ (in.)	K_{Ic} (Ksi $\cdot \sqrt{in.}$)	K_{Ic} MEAN	STAN DEV	DATE	REFER
T73652 Cont'd	Forging Cont'd	3.50	R.T. Cont'd	T-L Cont'd	60.8	3.000	1.500	CT	1.560	0.32	21.70	Cont'd	Cont'd	1975	AL015
		4.50			60.8	3.000	1.500	CT	1.560	0.27	20.00			1975	AL015
		5.50			62.6	3.000	1.500	CT	1.520	0.29	21.30			1975	AL015
		5.50			62.6	3.000	1.500	CT	1.540	0.29	21.30			1975	AL015
		3.50			66.0	3.000	1.500	CT	1.580	0.30	22.70			1975	AL015
		3.50			66.0	3.000	1.500	CT	1.540	0.29	22.50			1975	AL015
		5.50			66.2	3.000	1.500	CT	1.560	0.21	19.00			1975	AL015
		5.50			66.2	3.000	1.500	CT	1.580	0.22	19.70			1975	AL015
T73652	Forging	3.50	R.T.	S-L	56.5	3.000	1.500	CT	1.530	0.29	19.30	19.2	1.4	1975	AL015
		3.50			56.5	3.000	1.500	CT	1.540	0.29	19.40			1975	AL015
		5.50			57.1	3.000	1.500	CT	1.500	0.27	18.90			1975	AL015
		5.50			57.1	3.000	1.500	CT	1.540	0.29	19.30			1975	AL015
		4.50			57.3	3.000	1.500	CT	1.560	0.26	18.60			1975	AL015
		4.50			57.3	3.000	1.500	CT	1.560	0.25	18.10			1975	AL015
		7.50			57.8	3.000	1.500	CT	1.520	0.34	21.40			1975	AL015
		7.50			57.8	3.000	1.500	CT	1.500	0.24	18.00			1975	AL015
		7.50			58.1	3.000	1.500	CT	1.540	0.20	16.50			1975	AL015
		4.50			61.1	3.000	1.500	CT	1.540	0.29	20.70			1975	AL015
		4.50			61.1	3.000	1.500	CT	1.530	0.19	16.80			1975	AL015
		5.50			62.1	3.000	1.500	CT	1.530	0.26	20.20			1975	AL015
		5.50			62.1	3.000	1.500	CT	1.560	0.23	19.00			1975	AL015
		3.50			64.4	3.000	1.500	CT	1.610	0.27	21.10			1975	AL015

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic} K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} K_{Ic} MEAN	K_{Ic} STAN DEV	DATE	REFER
T73652 Cont'd	Forging Cont'd	3.50	R.T. Cont'd	S-L Cont'd	64.4	3.000	1.500	CT	1.570	0.28	21.40	Cont'd	Cont'd	1975	AL015
		---			67.6	1.500	0.750	CT	0.770	0.19	18.60			1975	AL015
		---			67.6	1.500	0.750	CT	0.760	0.19	18.70			1975	AL015
T73652	Forging	7.50	82	L-T	60.9	3.000	1.499	CT	1.458	0.77	33.70	34.1	3.6	1973	86213
		4.50			62.1	3.000	1.497	CT	1.531	0.92	37.70			1973	86213
		4.50			62.1	3.000	1.498	CT	1.554	0.82	35.50			1973	86213
		2.50			67.3	3.000	1.499	CT	1.465	0.47	29.30			1973	86213
T73652	Forging	4.50	82	T-L	60.2	3.000	1.499	CT	1.556	0.33	21.90	25.1	2.8	1973	86213
		2.50			65.5	3.000	1.498	CT	1.604	0.43	27.20			1973	86213
		2.50			65.5	3.000	1.500	CT	1.580	0.40	26.20			1973	86213
T73652	Forging	2.50	82	S-L	61.3	2.000	0.999	CT	0.986	0.26	19.90	19.2	1.0	1973	86213
		2.50			61.3	2.000	0.999	CT	0.997	0.23	18.50			1973	86213
T74	Forging	3.00	0	L-T	---	3.001	1.395	CT	1.631	---	40.59	43.1	3.5	1990	SW001
		3.00			---	3.001	1.431	CT	1.651	---	45.57			1990	SW001
T74	Forging	3.00	0	T-L	---	3.000	1.413	CT	1.617	---	29.05	28.5	0.7	1990	SW001
		3.00			---	3.002	1.386	CT	1.596	---	27.71			1990	SW001
		3.00			---	3.001	1.413	CT	1.618	---	28.63			1990	SW001
T74511	Extrusion	1.50	-65	L-T	71.0	3.000	1.480	CT	1.528	0.94	43.50	38.8	5.8	1987	DA005
		1.50			71.0	3.000	1.480	CT	1.556	0.96	43.90			1987	DA005
		0.75			74.3	1.502	0.733	CT	0.801	0.56	35.20			1987	DA004
		0.75			74.3	1.501	0.729	CT	0.803	0.48	32.60			1987	DA004

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	K_{Ic} STAN DEV	DATE	REFER
T74511	Extrusion	1.00	0	T-L	---	2.001	0.999	CT	1.046	---	25.19	25.1	0.5	1990	SW001
		1.00			---	2.001	0.999	CT	1.051	---	25.16			1990	SW001
		1.00			---	2.001	0.999	CT	1.046	---	24.41			1990	SW001
		1.00			---	2.001	1.000	CT	1.051	---	25.66			1990	SW001
T74511	Extrusion	1.50	R.T.	L-T	66.7	3.000	1.480	CT	1.540	1.11	44.40	40.4	5.0	1987	DA005
		1.50			66.7	3.000	1.480	CT	1.546	1.14	45.00			1987	DA005
		0.75			69.6	1.505	0.731	CT	0.798	0.70	36.80			1987	DA004
		0.75			69.6	1.503	0.729	CT	0.792	0.64	35.30			1987	DA004
T7452	Forging	4.00	-65	T-L	73.6	2.008	1.000	CT	1.055	0.21	21.11	20.7	0.6	1987	DA005
		4.00			73.6	2.007	1.012	CT	0.968	0.19	20.33			1987	DA005
T7452	Forging	4.00	R.T.	L-T	70.3	2.006	0.999	CT	1.026	0.46	30.27	31.1	1.2	1987	DA005
		4.00			70.3	2.008	1.000	CT	1.041	0.52	31.94			1987	DA005
T7452	Forging	4.00	R.T.	T-L	71.7	1.998	1.001	CT	1.028	0.35	26.90	23.5	3.0	1987	DA004
		4.00			72.2	2.006	1.003	CT	0.966	0.22	21.44			1987	DA005
		4.00			72.2	2.005	1.001	CT	1.008	0.23	22.10			1987	DA005
T7651	Plate	0.75	-65	L-T	69.6	1.482	0.743	CT	0.754	0.65	35.60	34.3	1.1	1987	DA004
		0.75			73.4	1.483	0.741	CT	0.750	0.56	34.70			1987	DA004
		1.00			75.1	2.006	1.000	CT	1.055	0.50	33.70			1987	DA005
		1.00			75.1	2.004	1.002	CT	1.093	0.49	33.19			1987	DA005

TABLE 8.7.2.1 (CONCLUDED)

ALUMINUM 7050 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_{Ic} (Ksi * √in.)	K_{Ic} MEAN	STAN DEV		
T7651	Plate	0.75	R.T.	L-T	69.6	1.483	0.741	CT	0.769	0.68	36.20	33.4	2.8	1987	DA004
		1.00			71.2	2.005	1.001	CT	1.101	0.63	35.70			1987	DA005
		1.00			71.2	2.003	1.001	CT	1.066	0.64	35.96			1987	DA005
		1.00			78.3	2.500	1.004	CT	1.280	0.38	30.70			1973	86574
		1.00			78.3	2.500	1.004	CT	1.279	0.39	31.10			1973	86574
		1.00			78.3	2.500	1.003	CT	1.274	0.38	30.60			1973	86574
T76511	Plate	0.75	R.T.	L-T	80.6	1.505	0.730	CT	0.780	0.27	26.70	---	---	1987	DA004
T76511	Extrusion	1.50	-65	L-T	80.1	3.000	1.480	CT	1.550	0.47	34.90	30.3	7.1	1987	DA005
		1.50			80.1	3.000	1.480	CT	1.536	0.55	37.60			1987	DA005
		0.75			84.9	1.503	0.733	CT	0.789	0.18	23.00			1987	DA004
		0.75			84.9	1.502	0.734	CT	0.835	0.23	25.50			1987	DA004
T76511	Extrusion	1.50	R.T.	L-T	76.9	3.000	1.480	CT	1.568	0.61	38.00	34.8	5.5	1987	DA005
		1.50			76.9	3.000	1.480	CT	1.553	0.61	38.00			1987	DA005
		0.75			80.6	1.504	0.729	CT	0.787	0.31	28.50			1987	DA004
T76511	Extrusion	2.00	R.T.	S-T	71.4	1.500	0.749	CT	0.735	0.29	24.30	---	---	1973	86213
T7E56	Forging	5.00	R.T.	T-L	62.1	1.500	0.750	NB	0.875	0.74	33.80	28.9	3.9	1972	85291
		5.00			62.1	1.500	0.751	NB	0.837	0.48	27.20			1972	85291
		5.00			62.1	1.500	0.750	NB	0.837	0.39	24.60			1972	85291
		5.00			62.1	1.500	0.751	NB	0.863	0.57	29.80			1972	85291

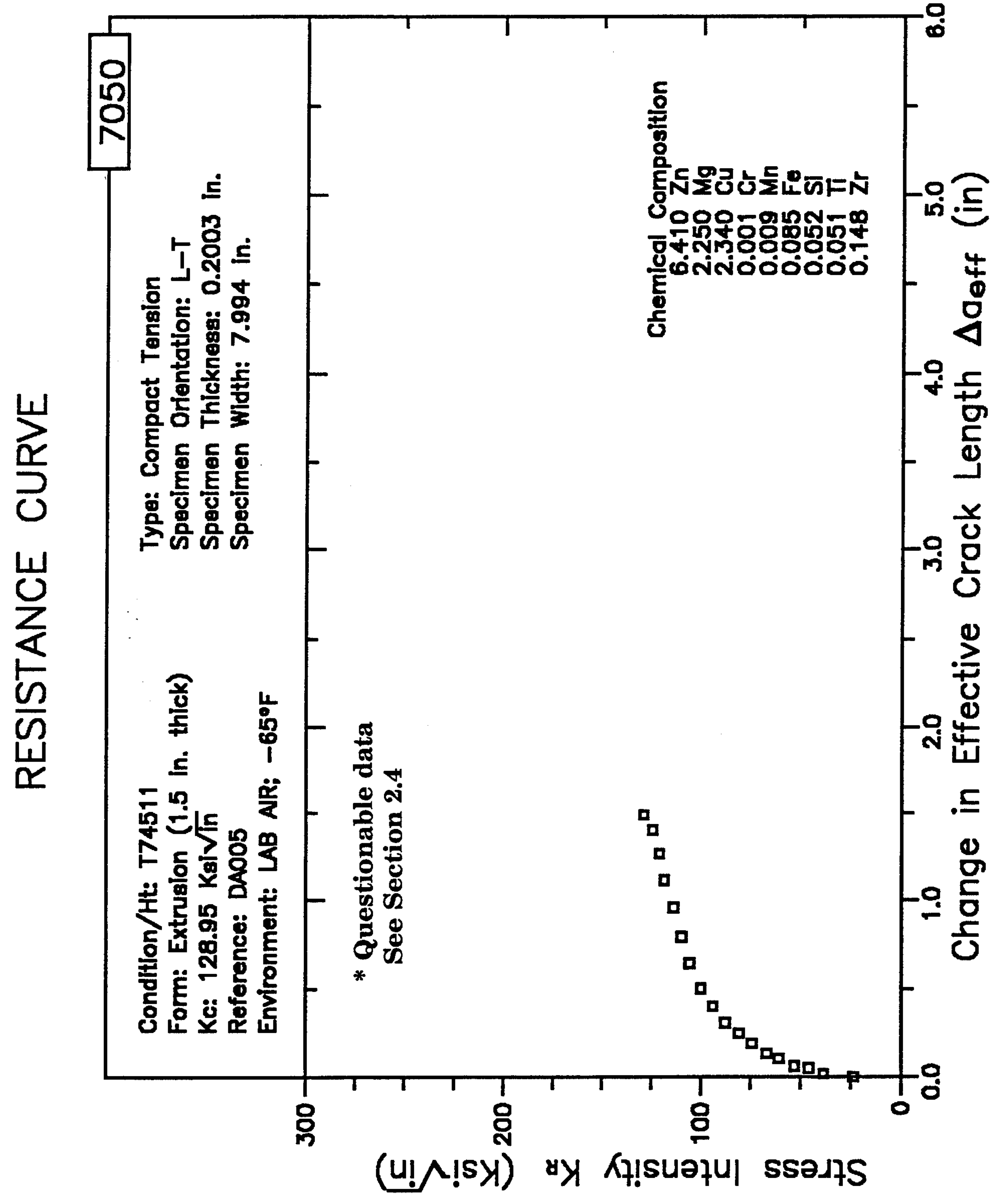
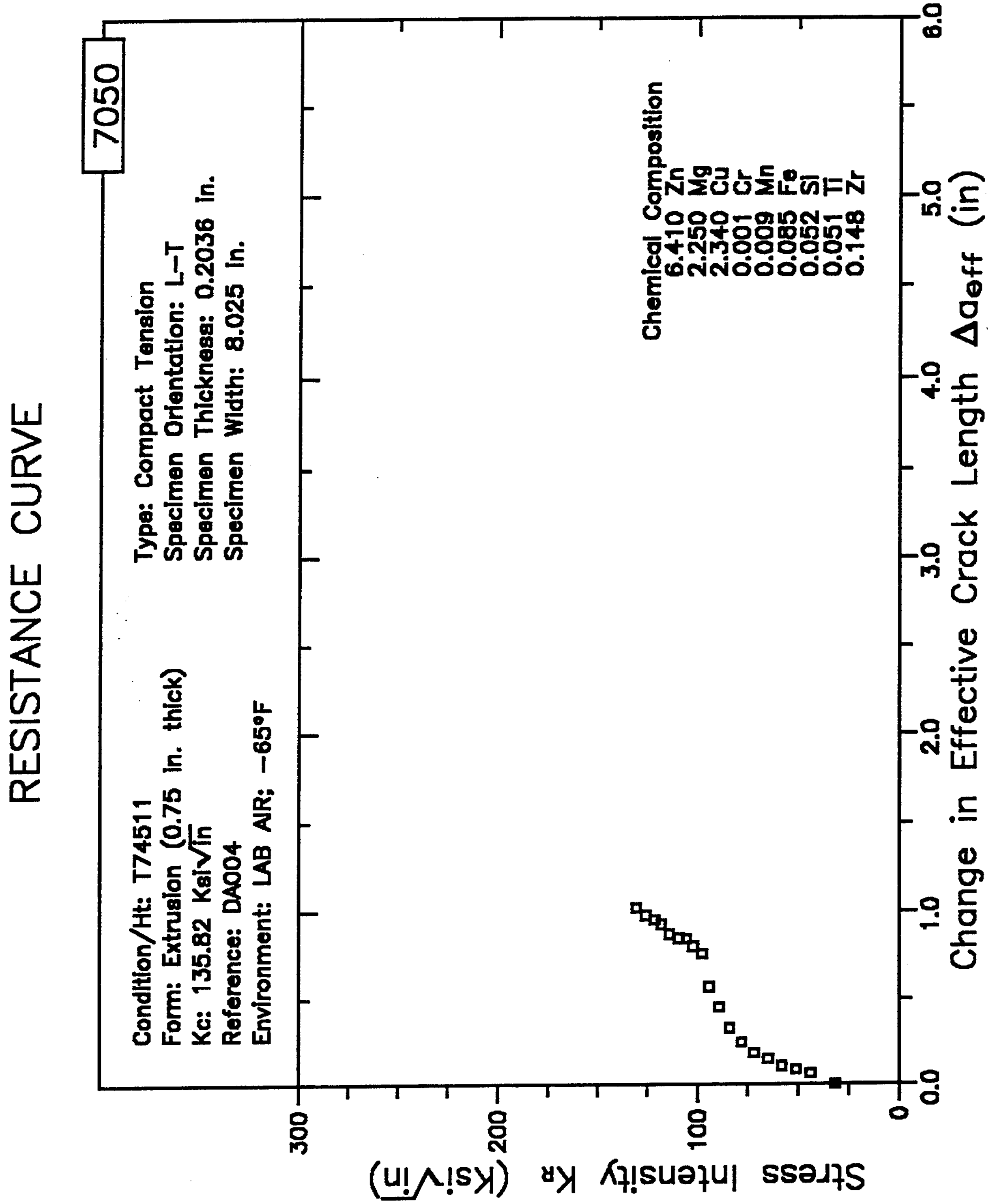


Figure 8.7.2.3.1



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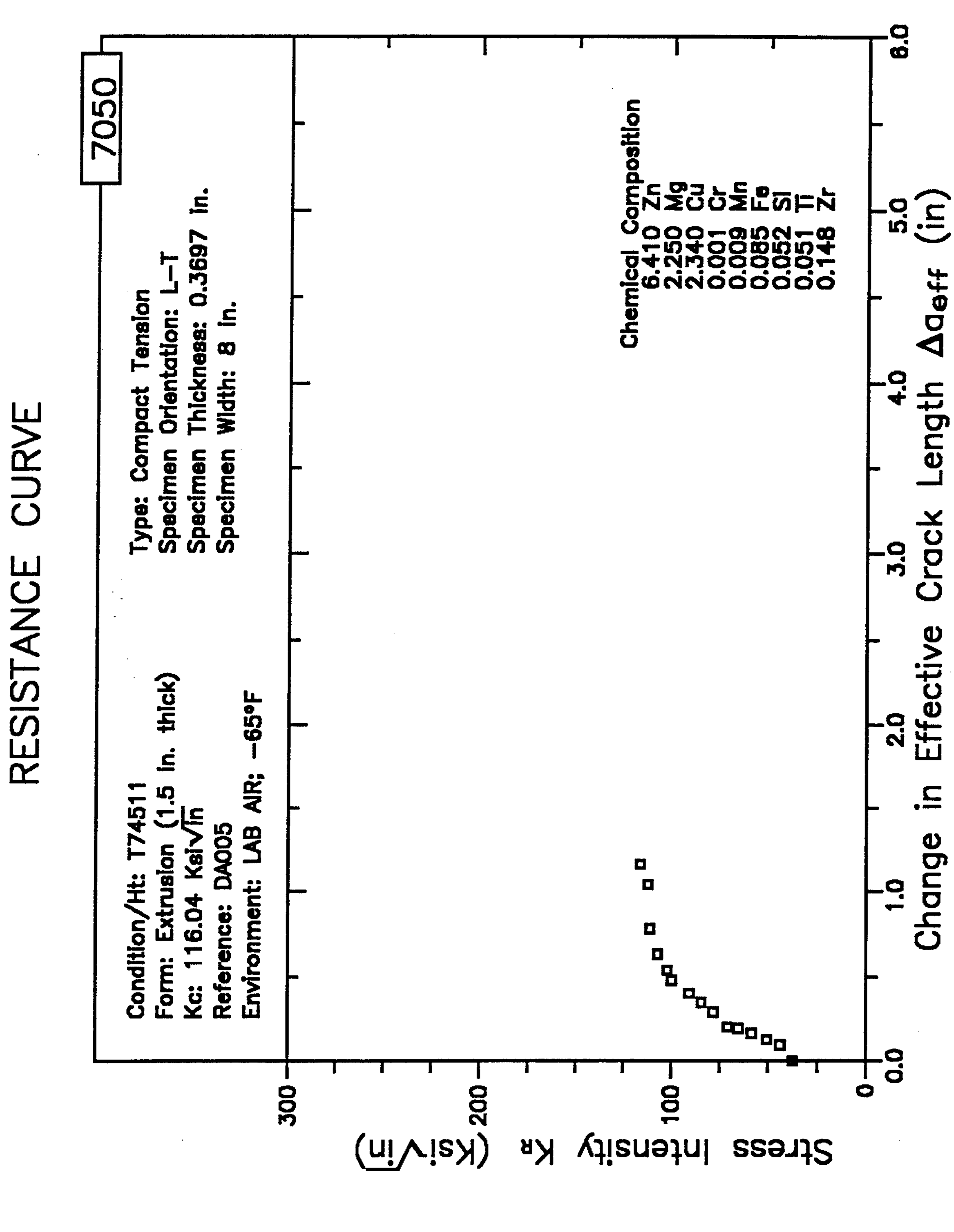

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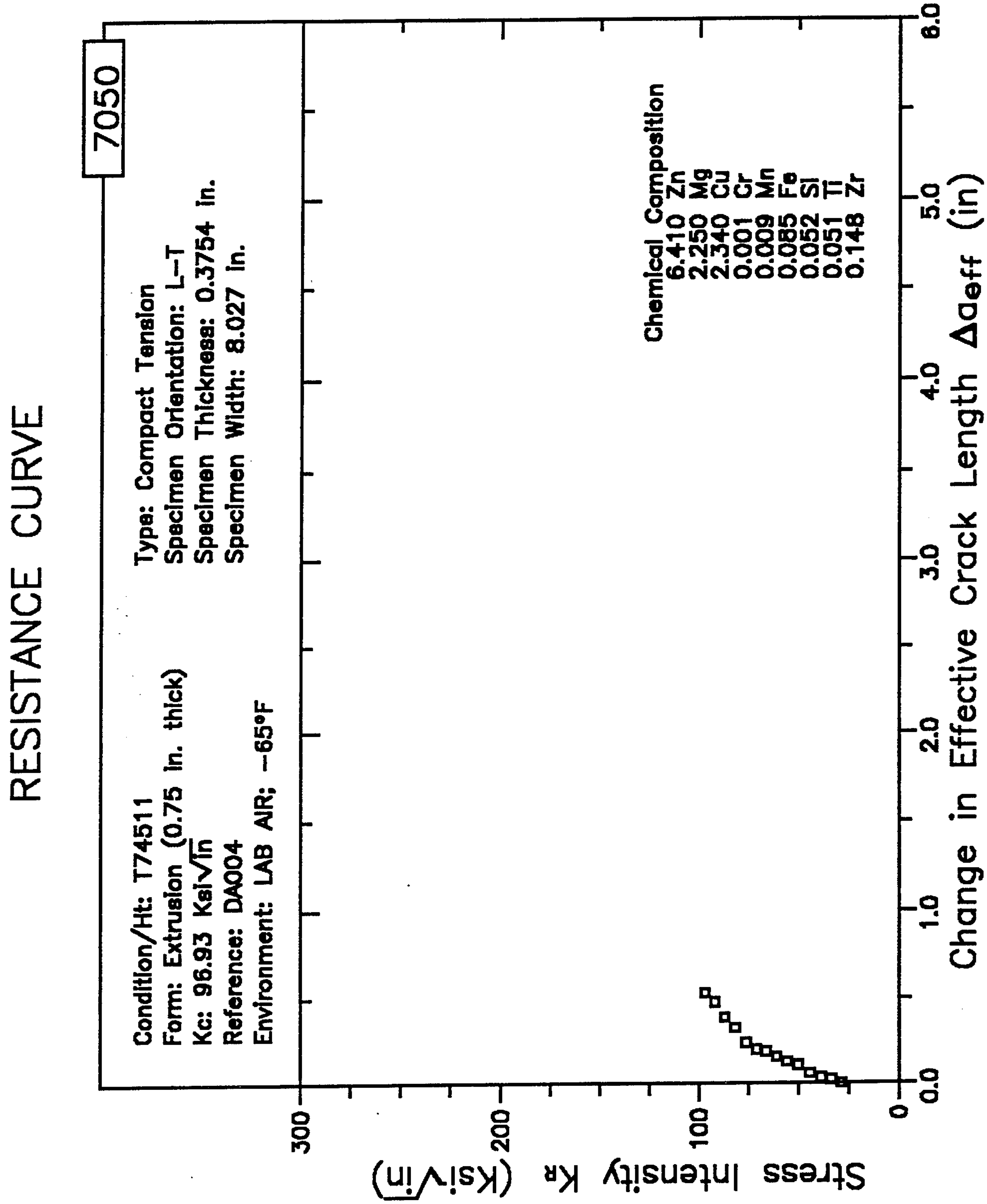

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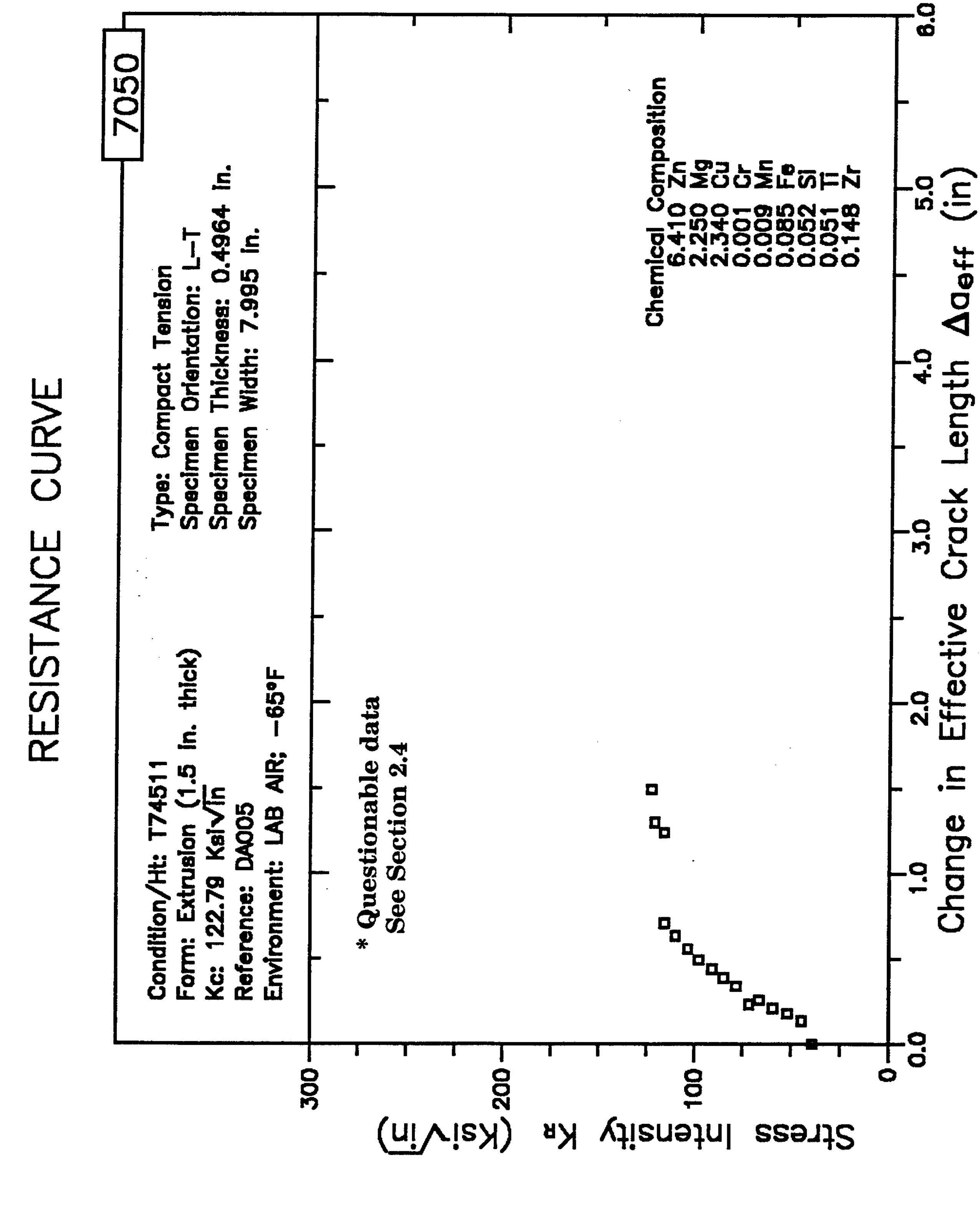

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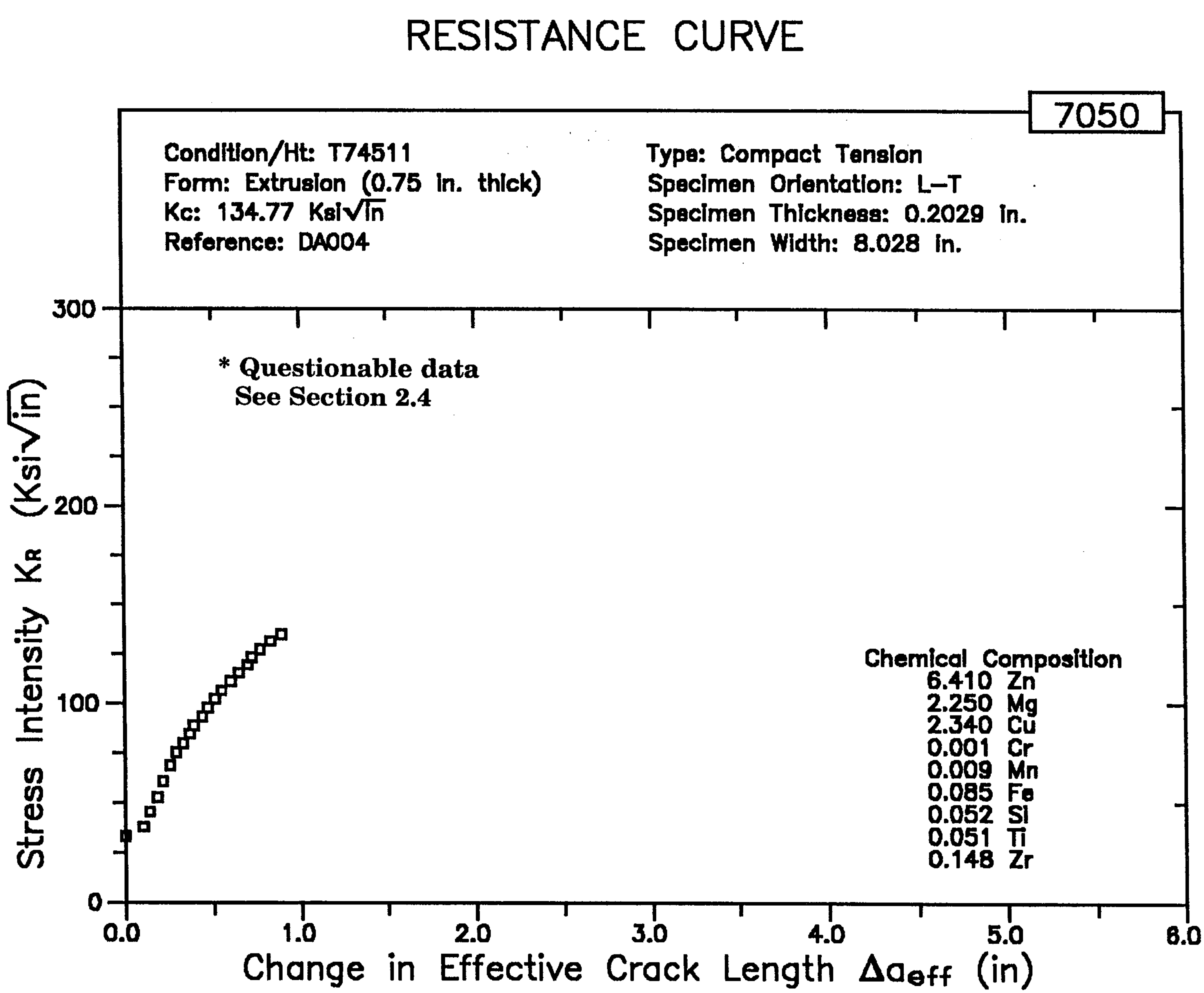

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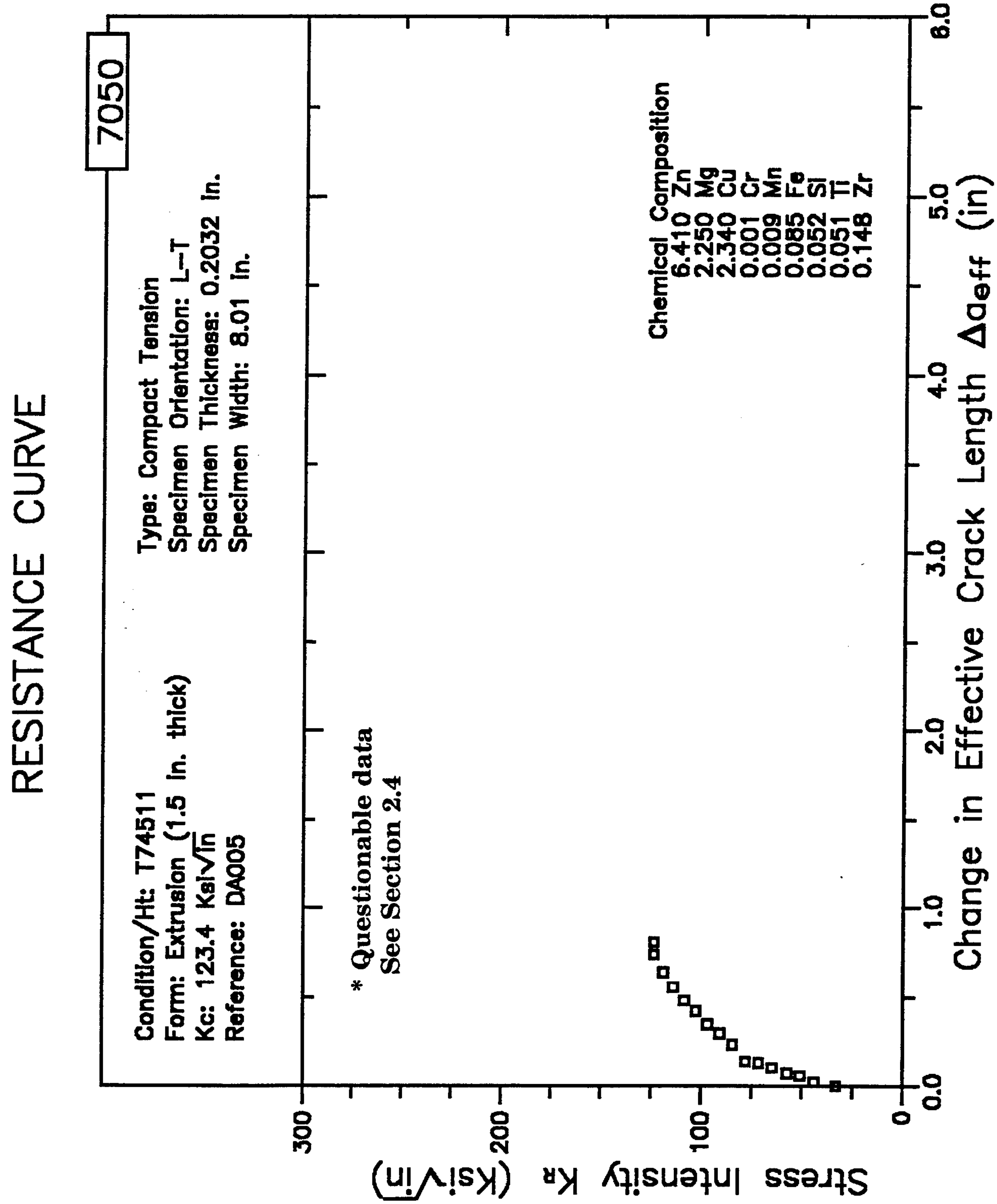

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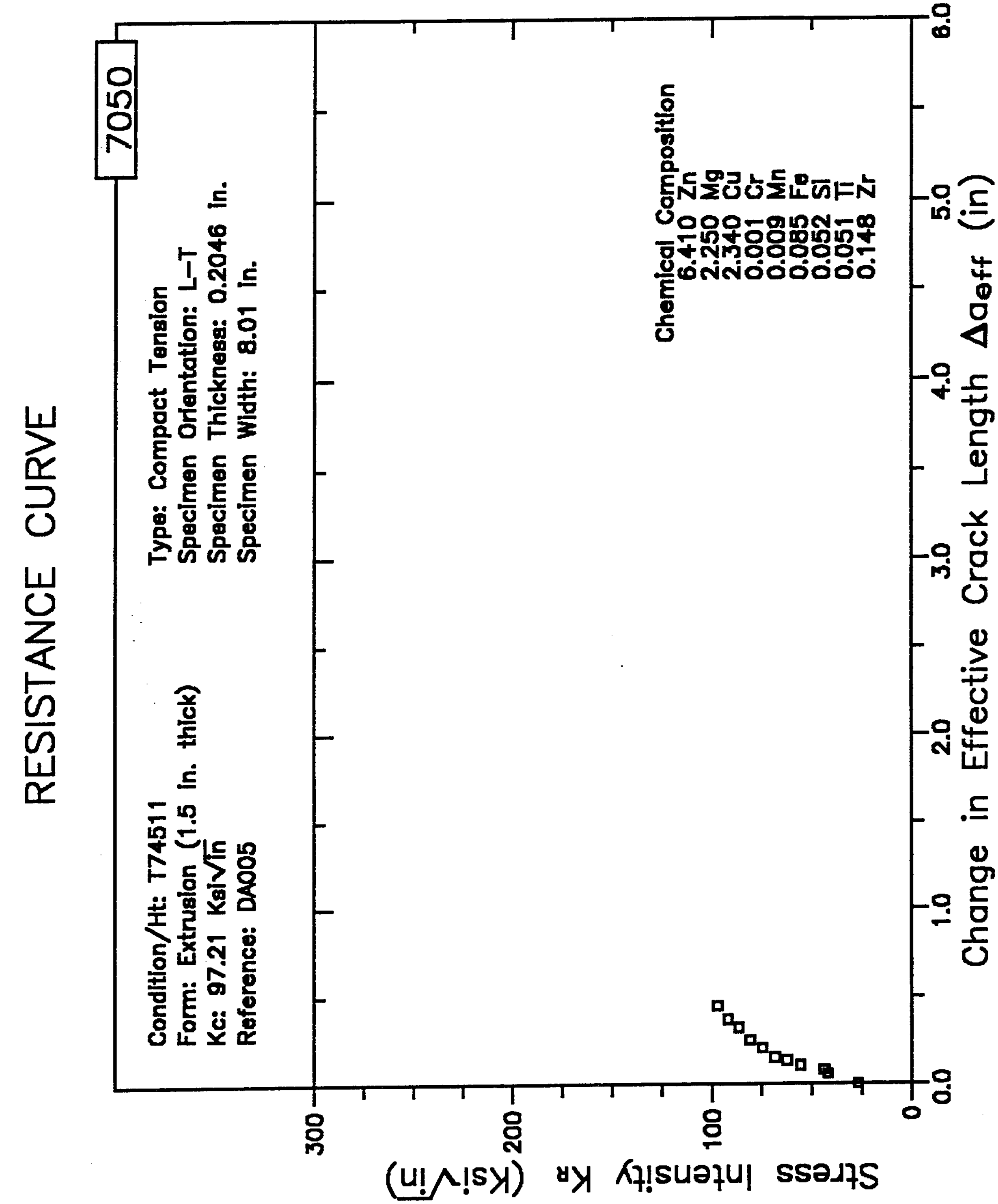

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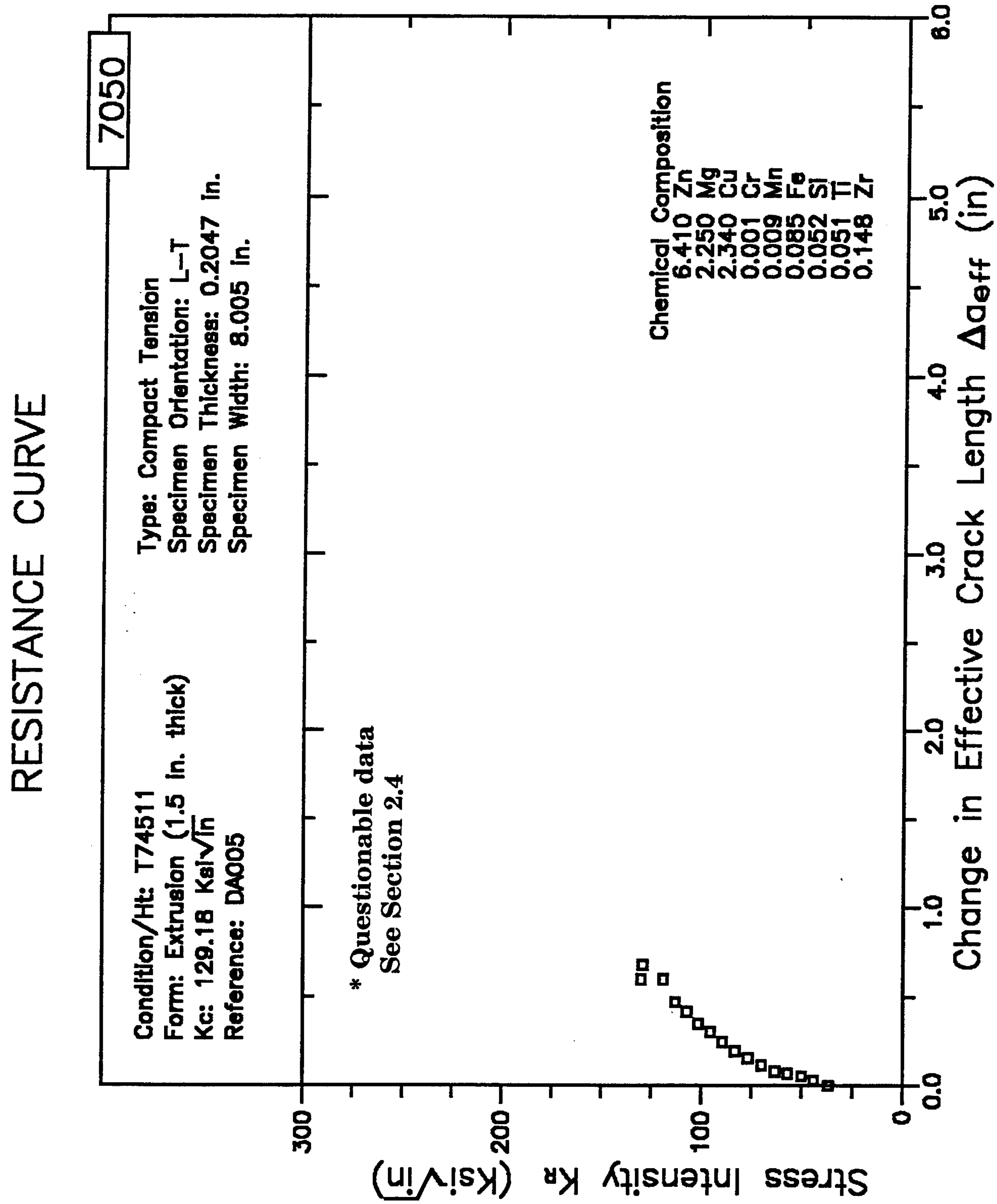

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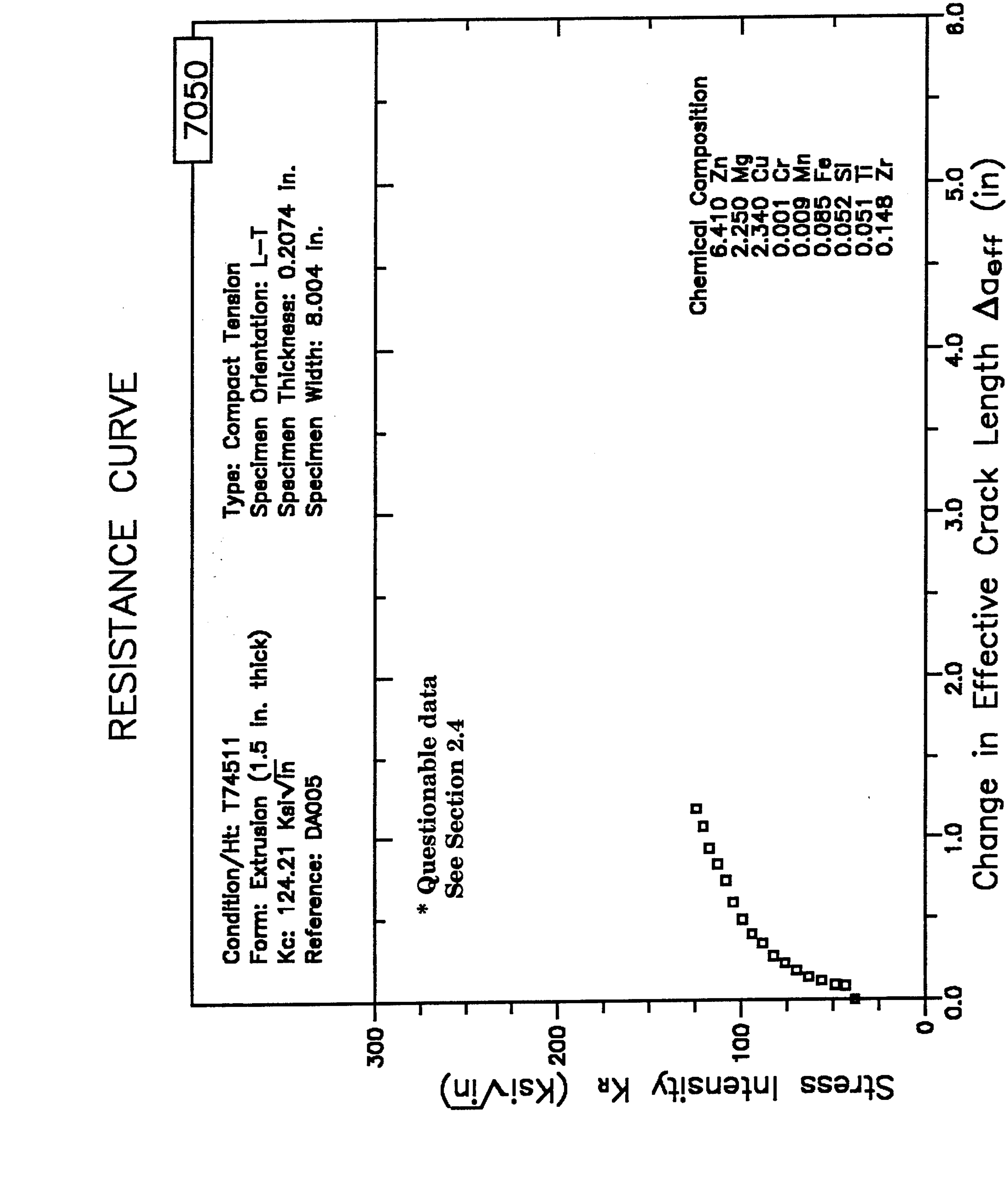

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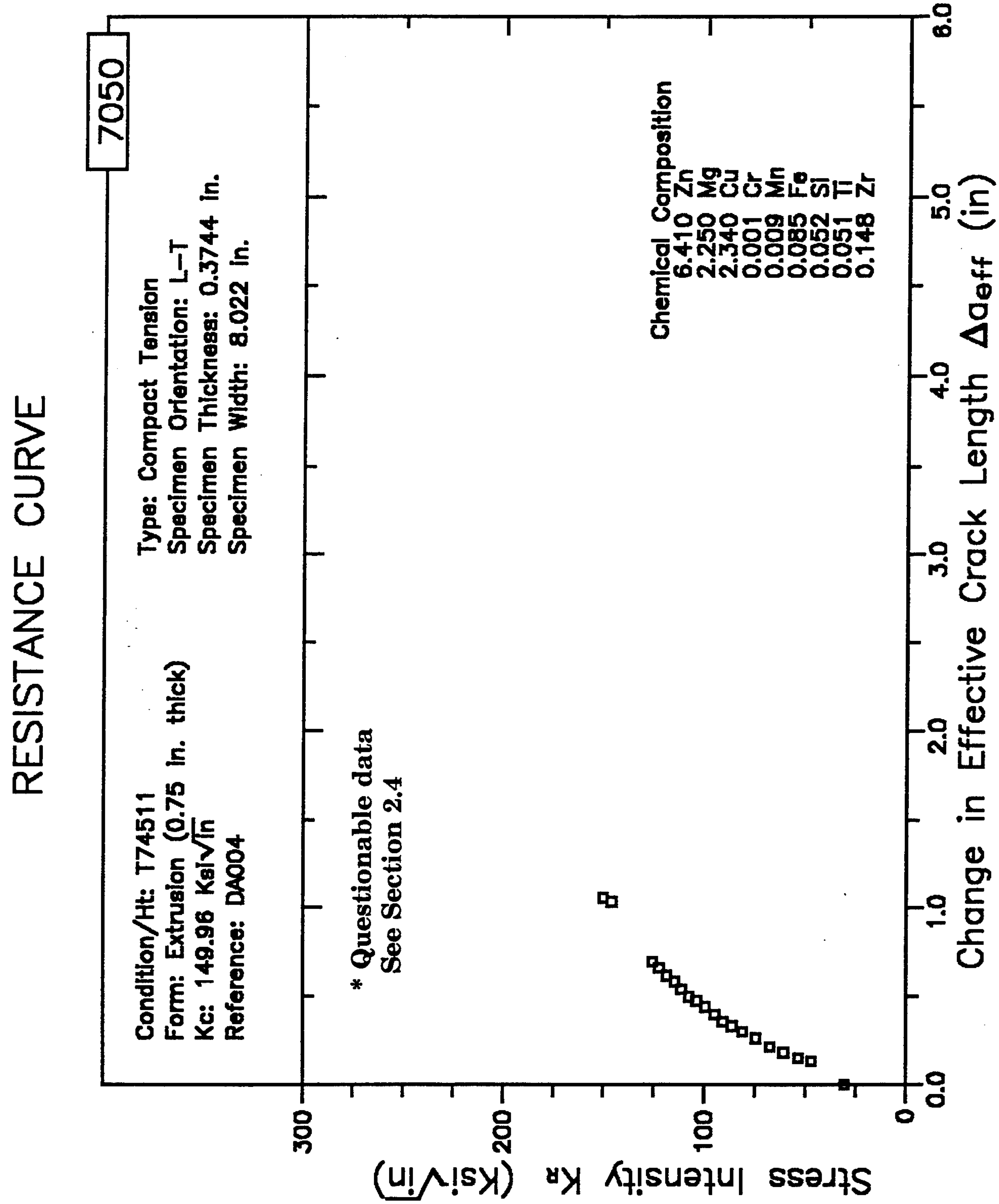

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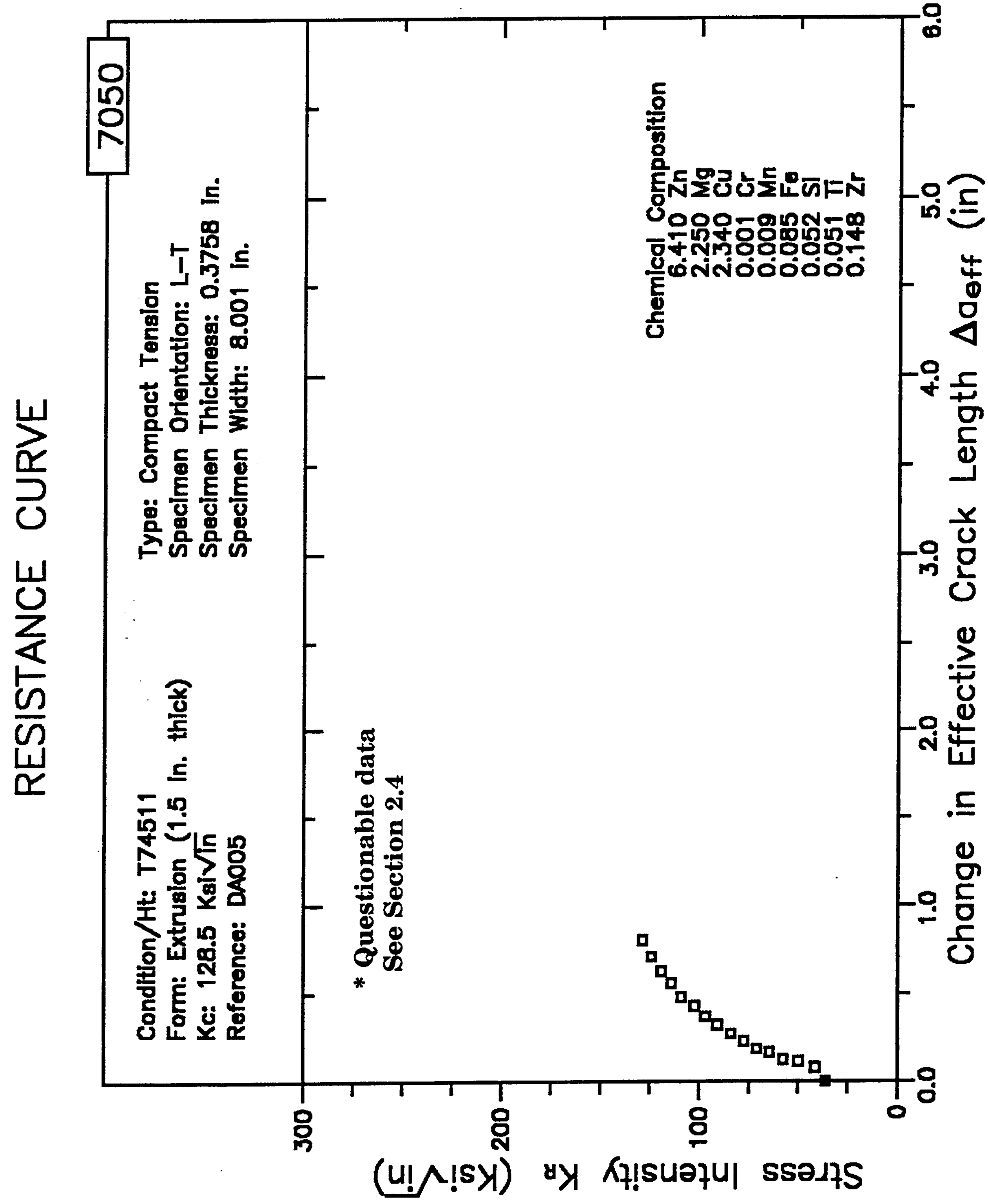

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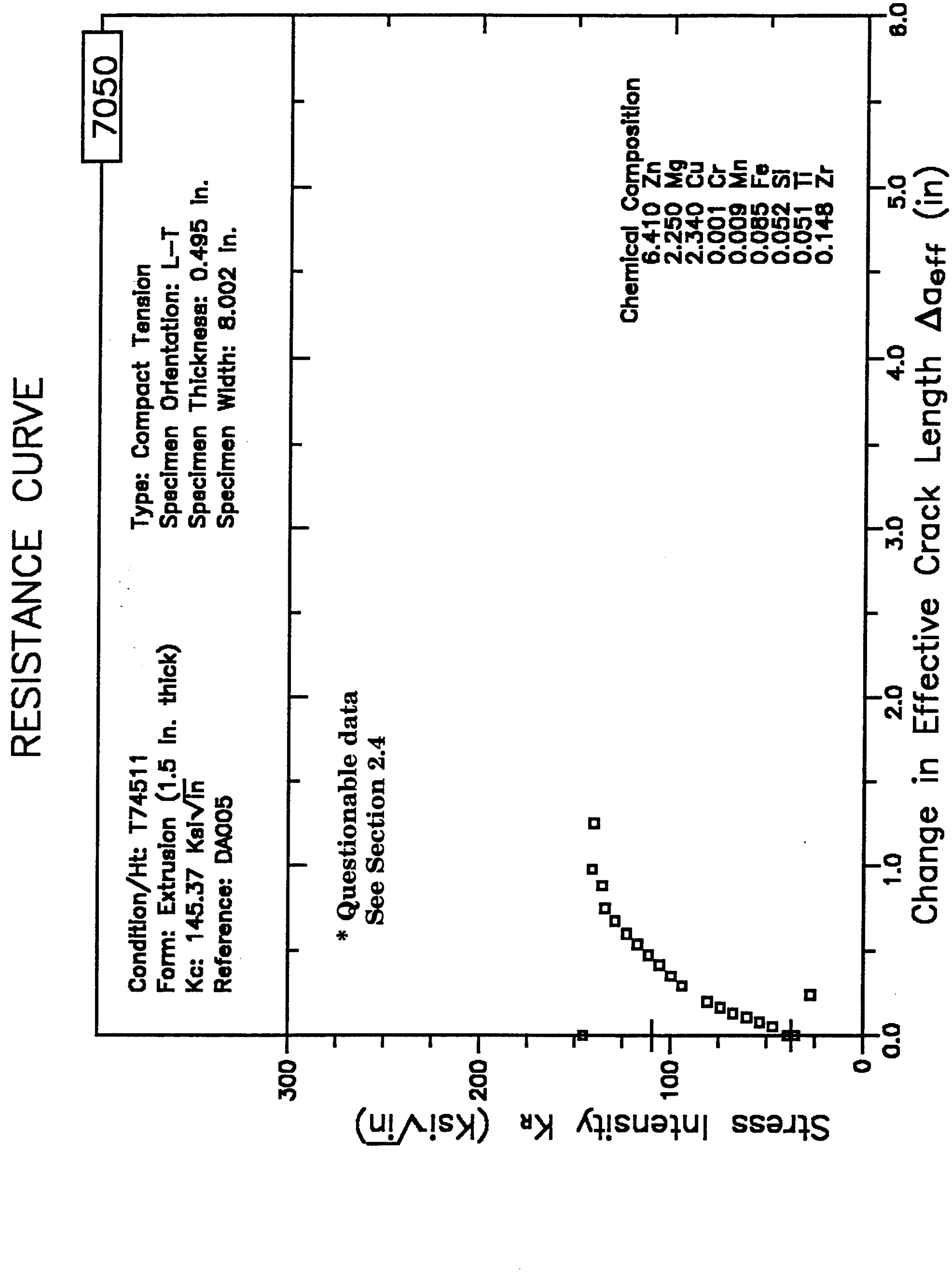

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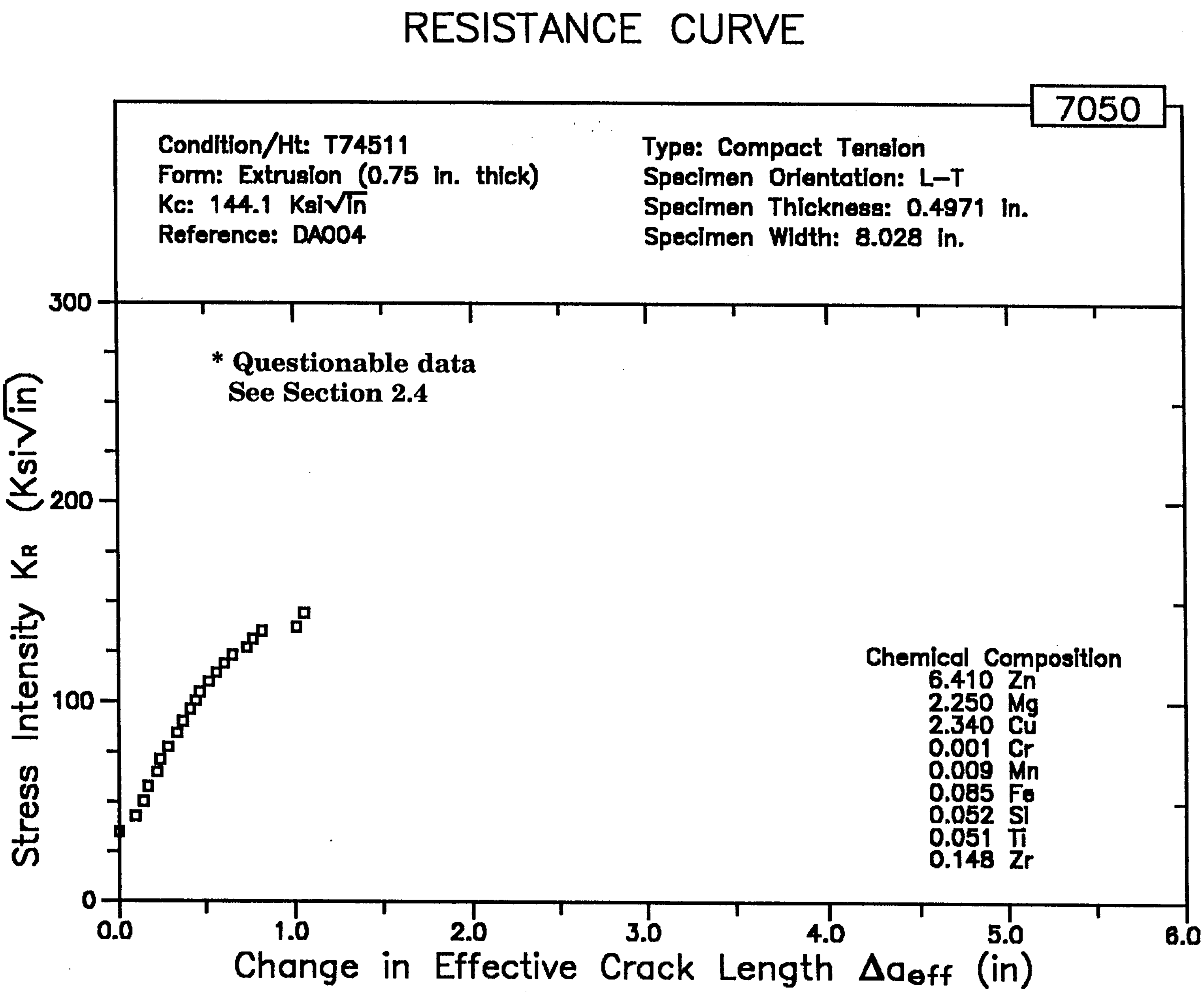

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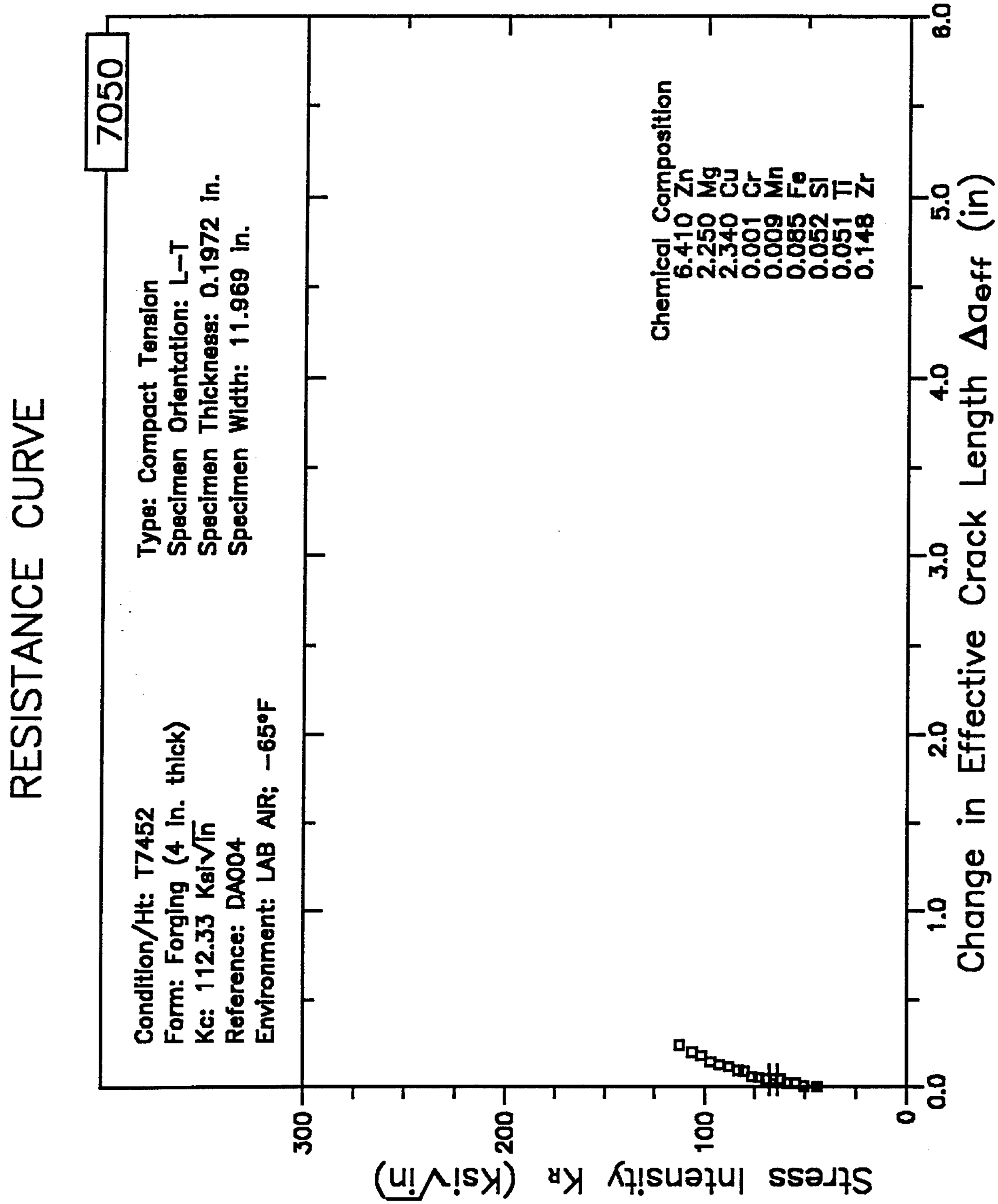

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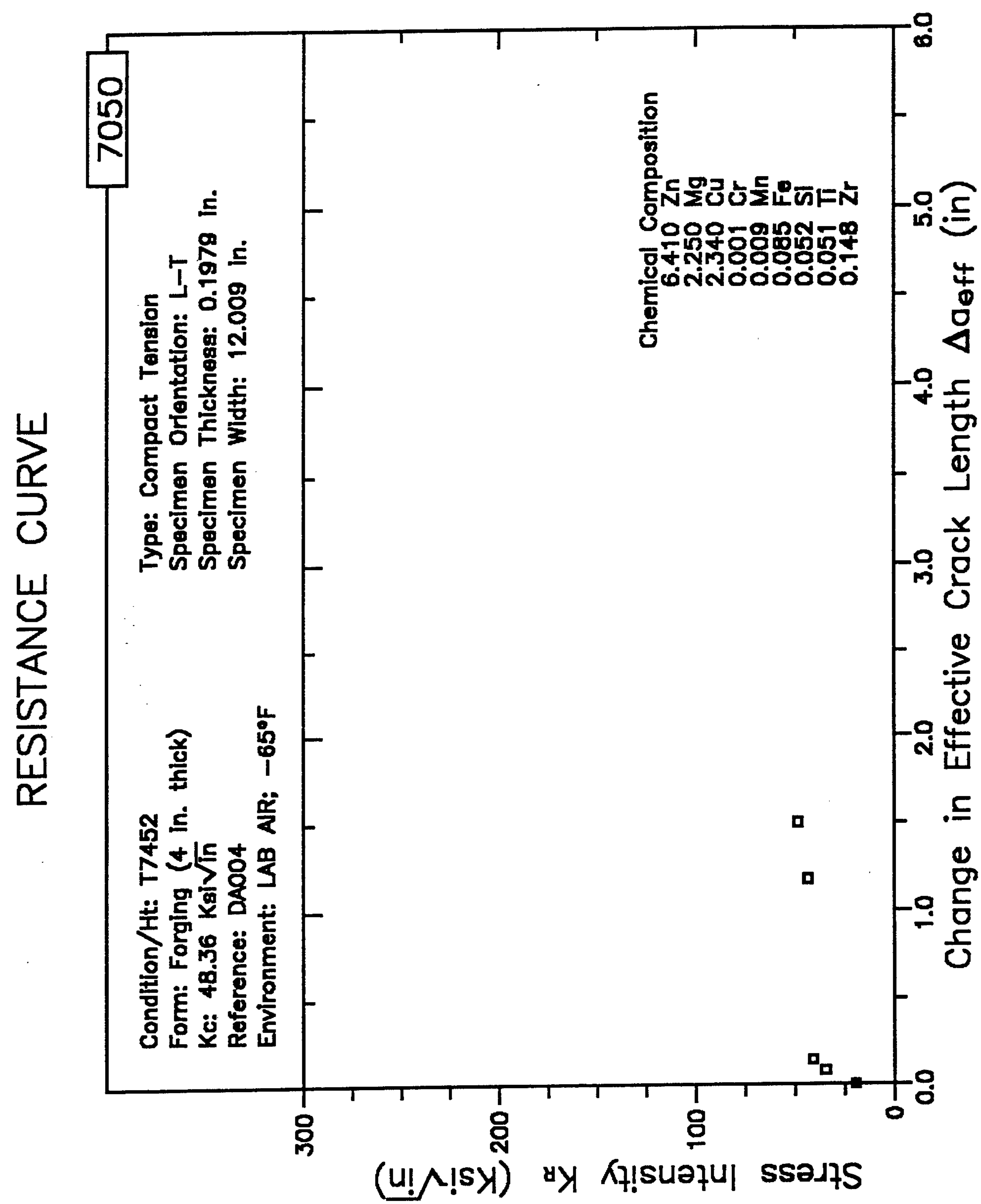

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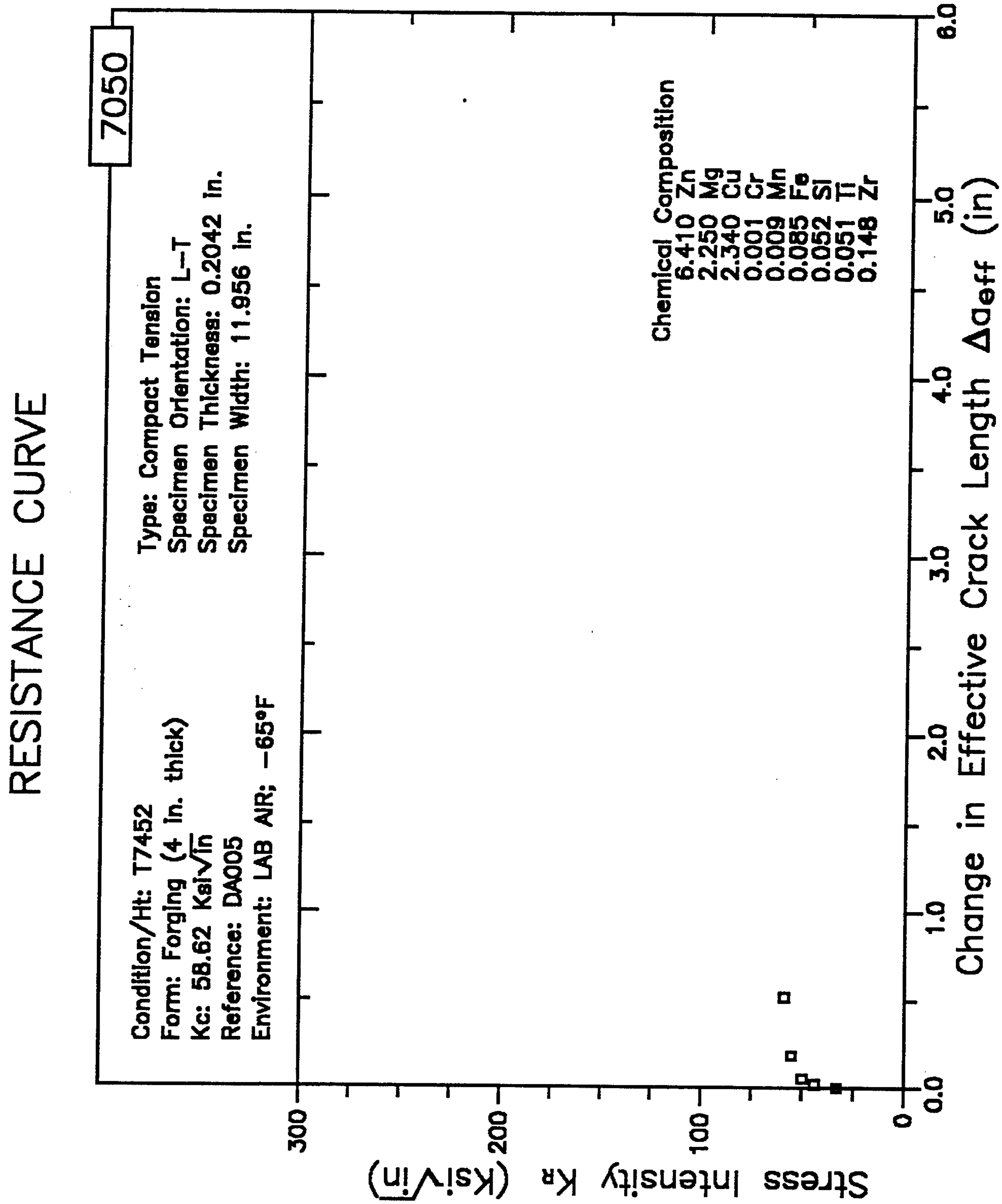

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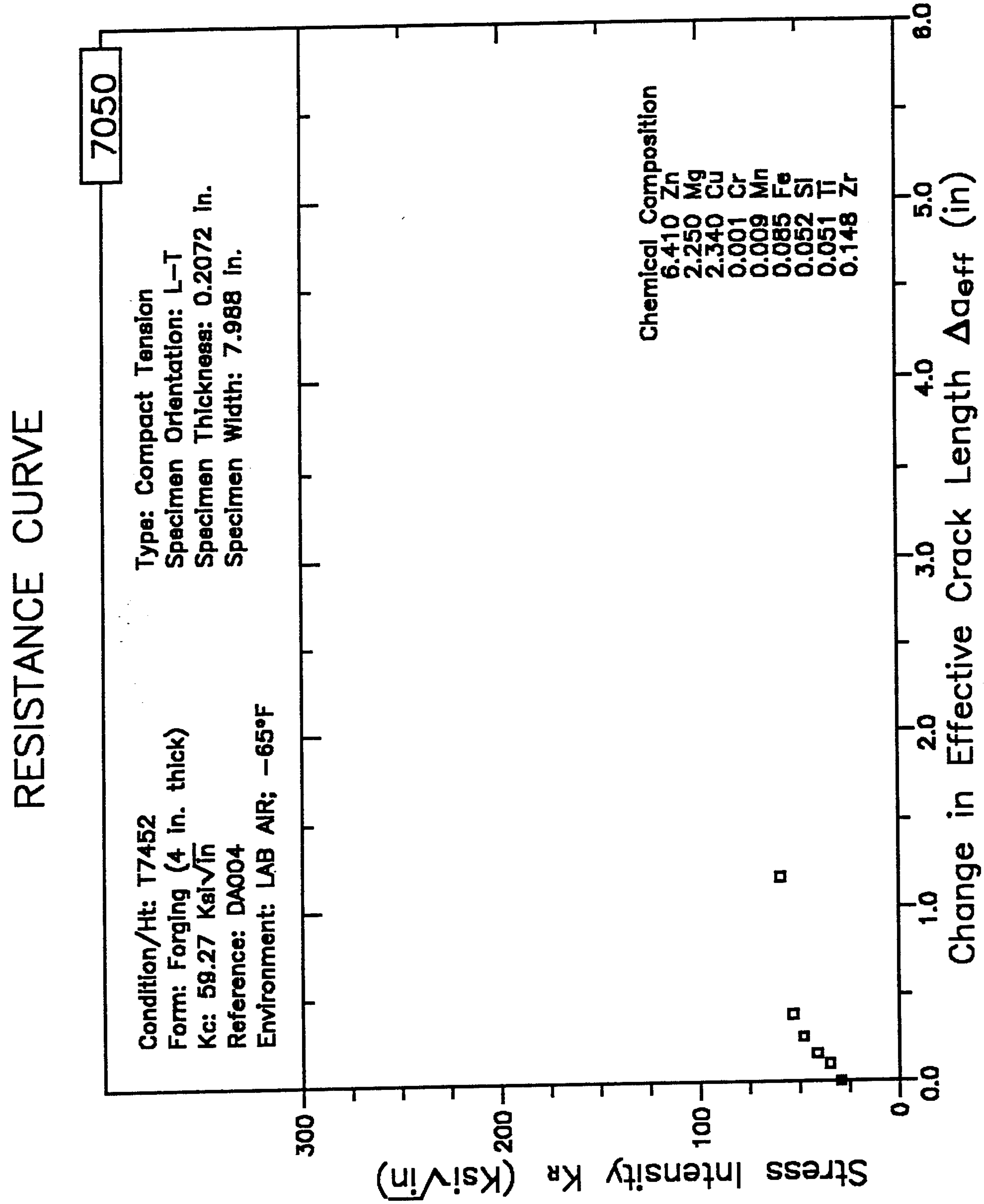

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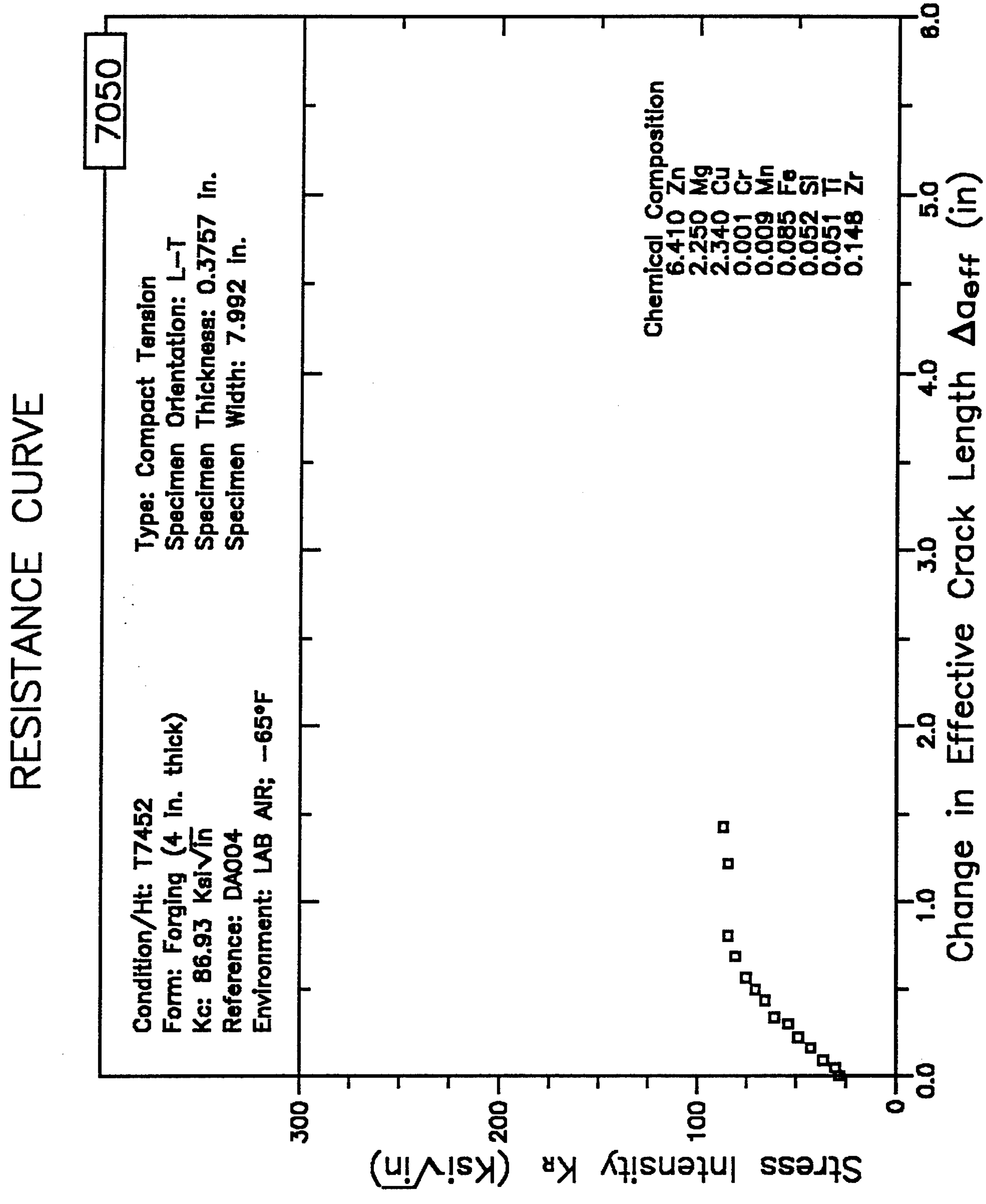

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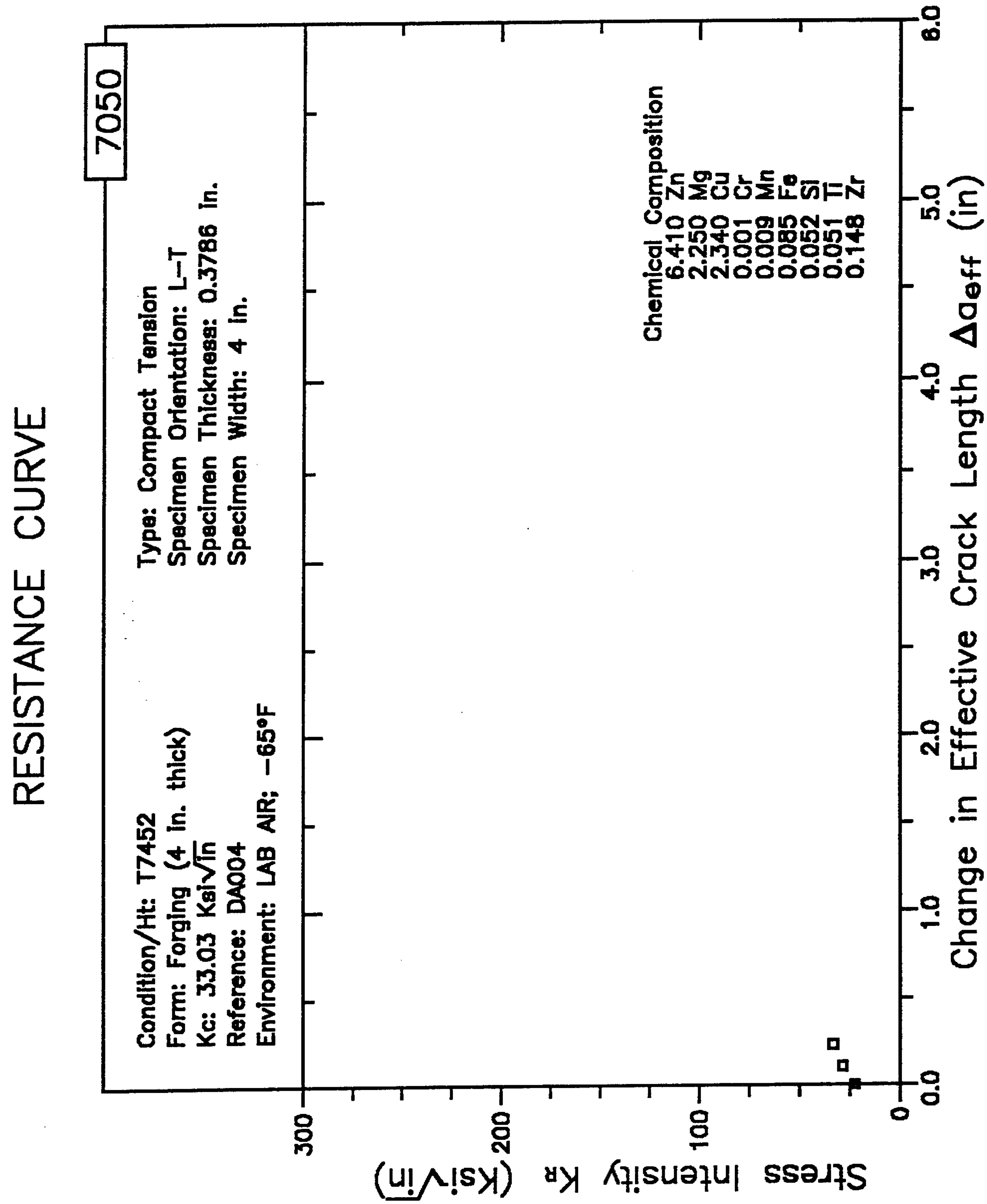

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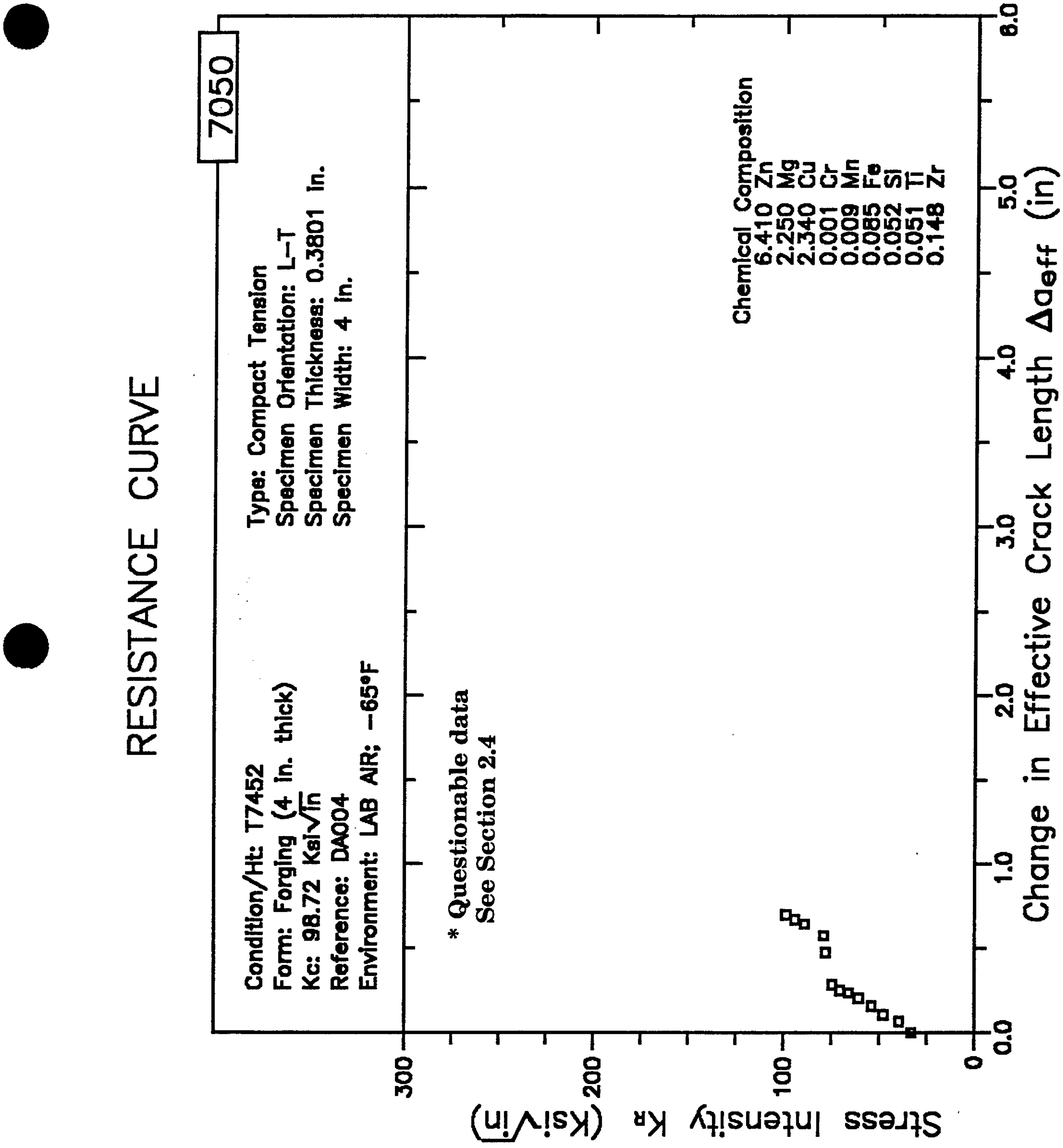

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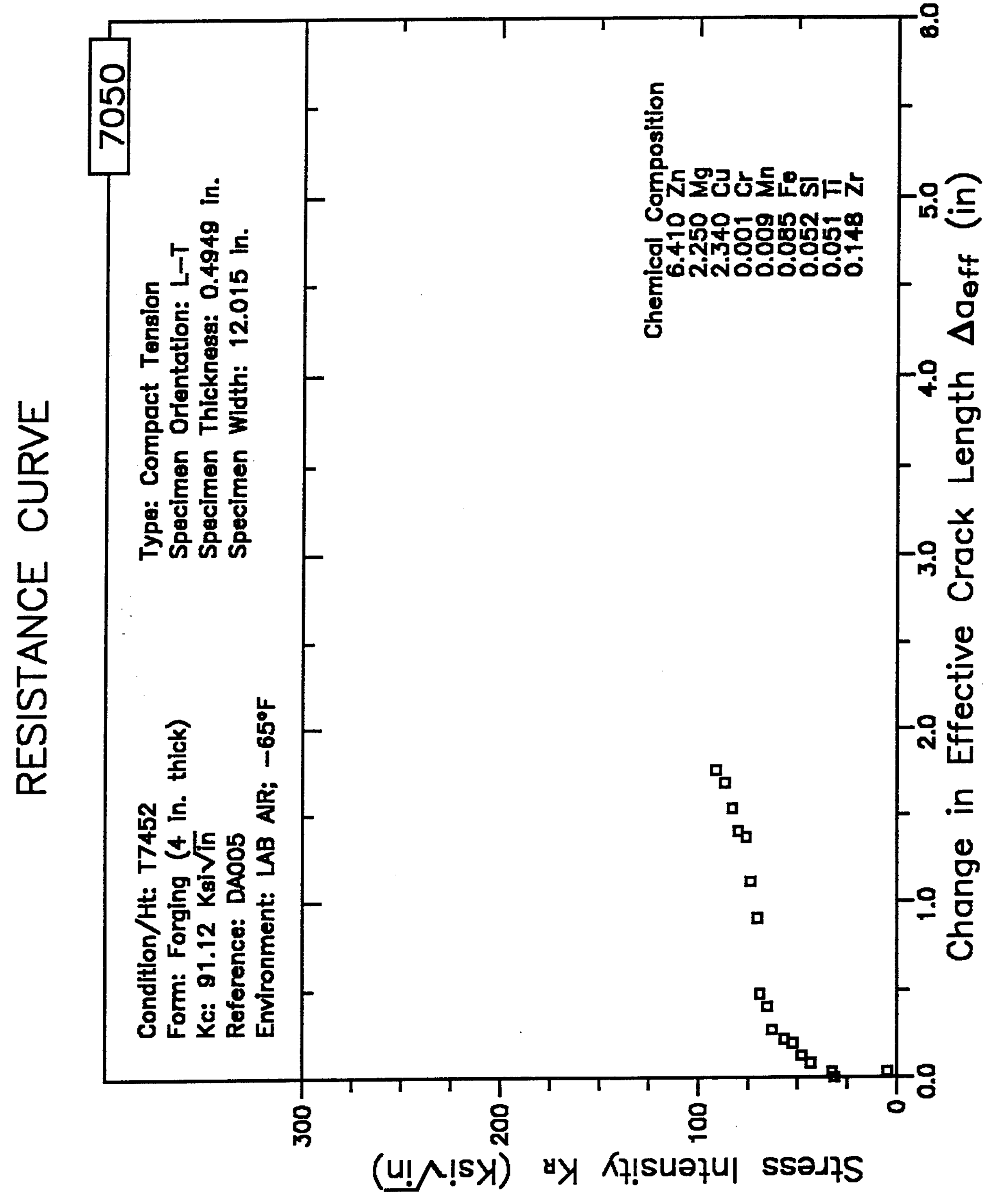

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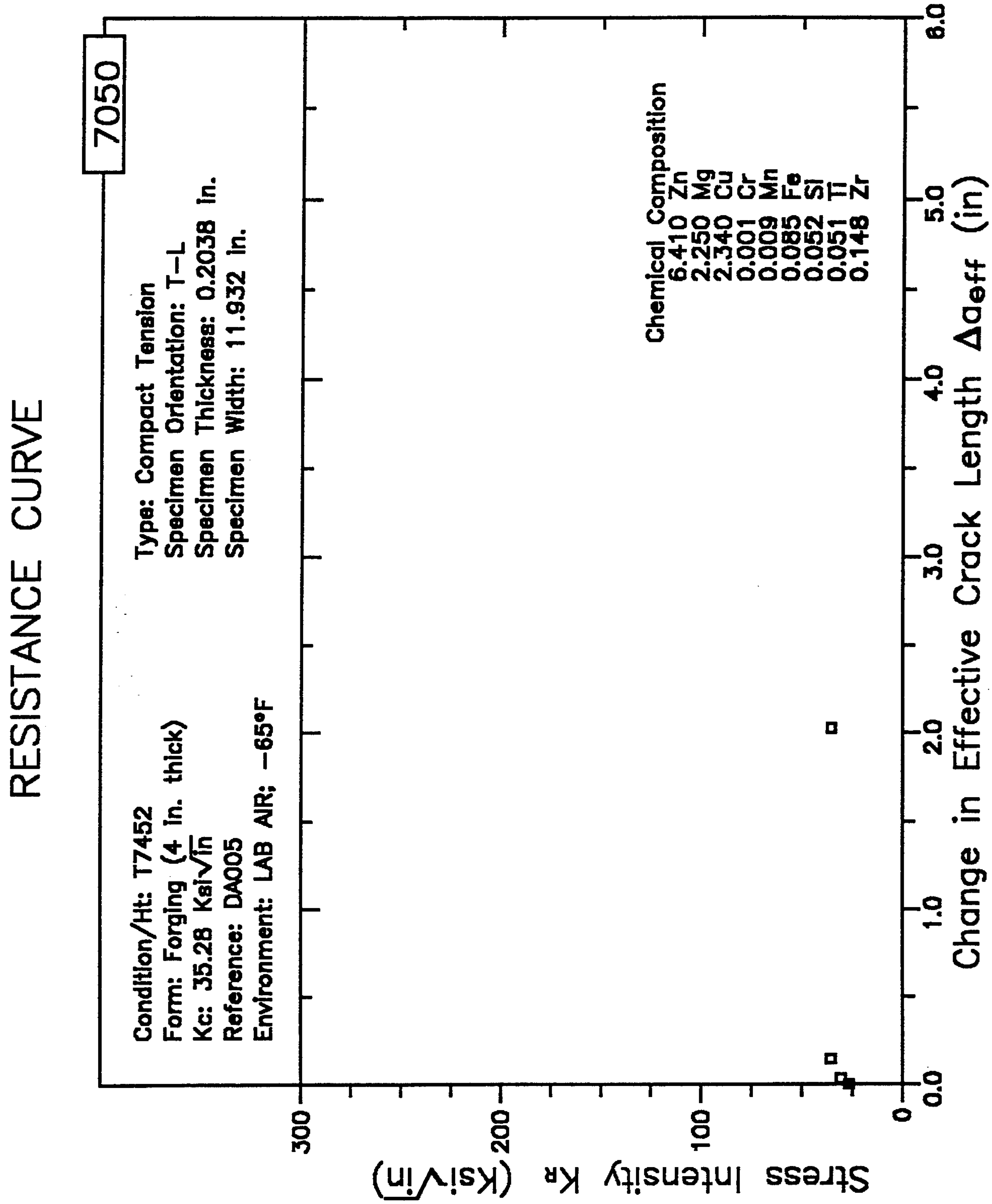

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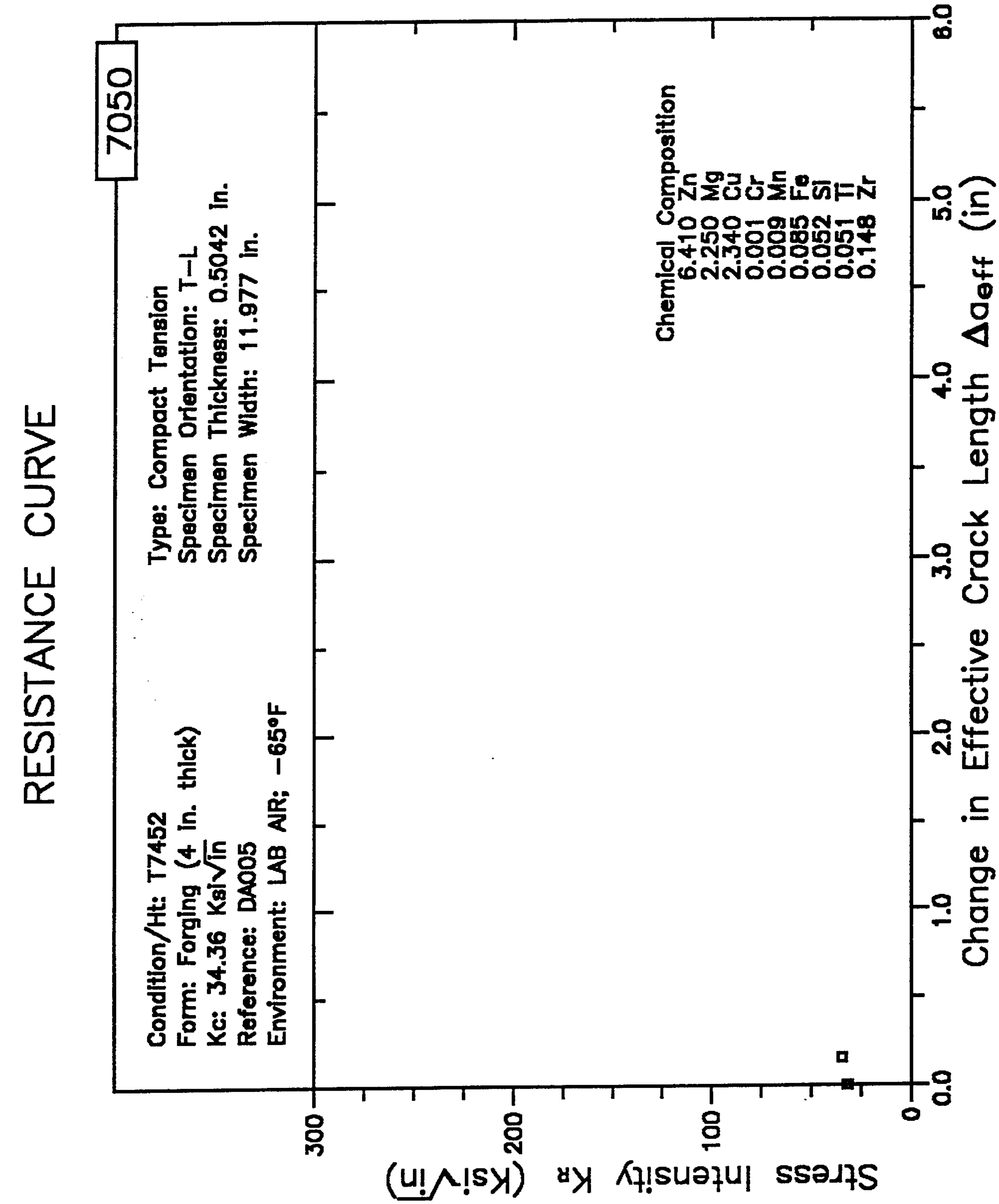


Figure 8.7.2.3.24

RESISTANCE CURVE

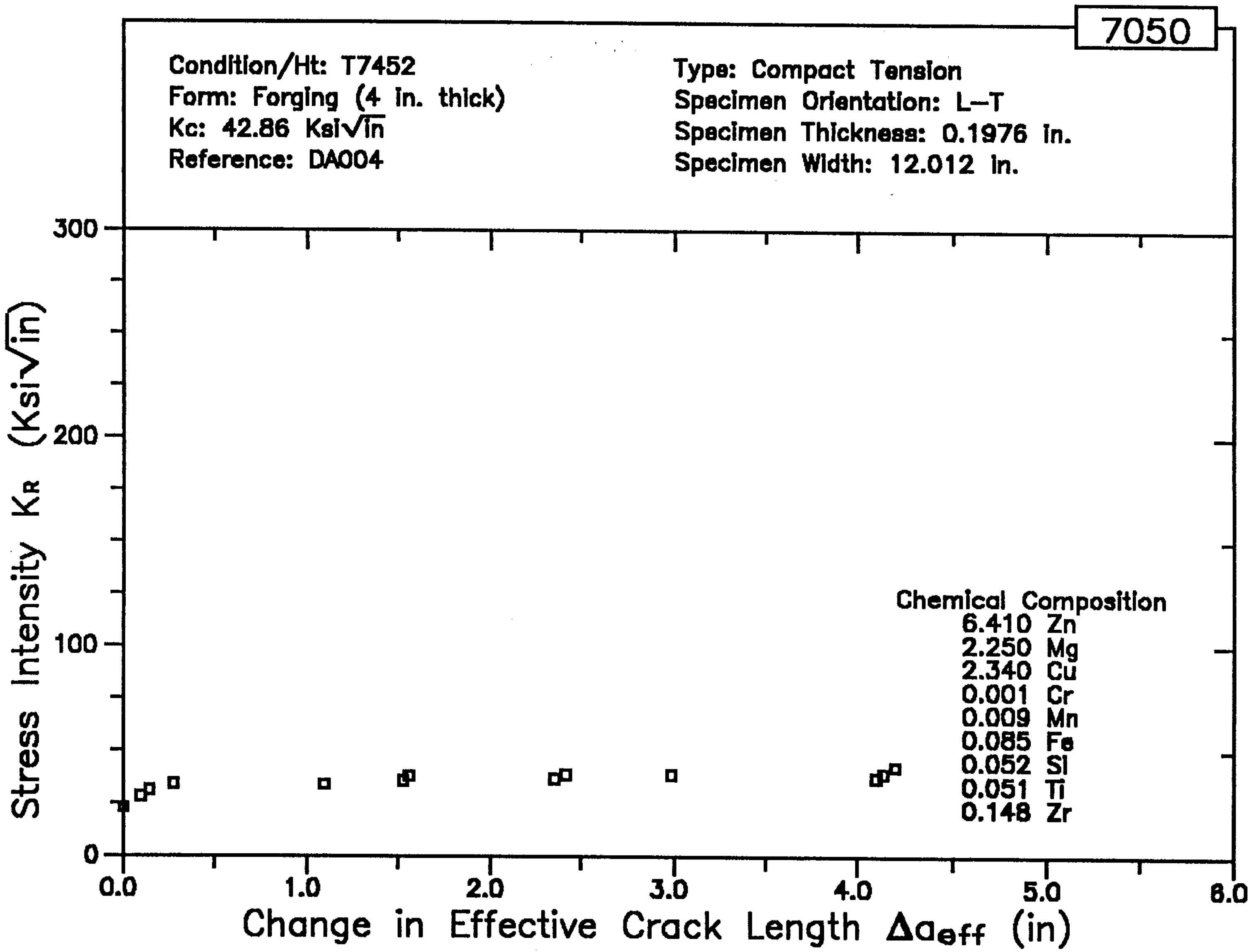


Figure 8.7.2.3.25

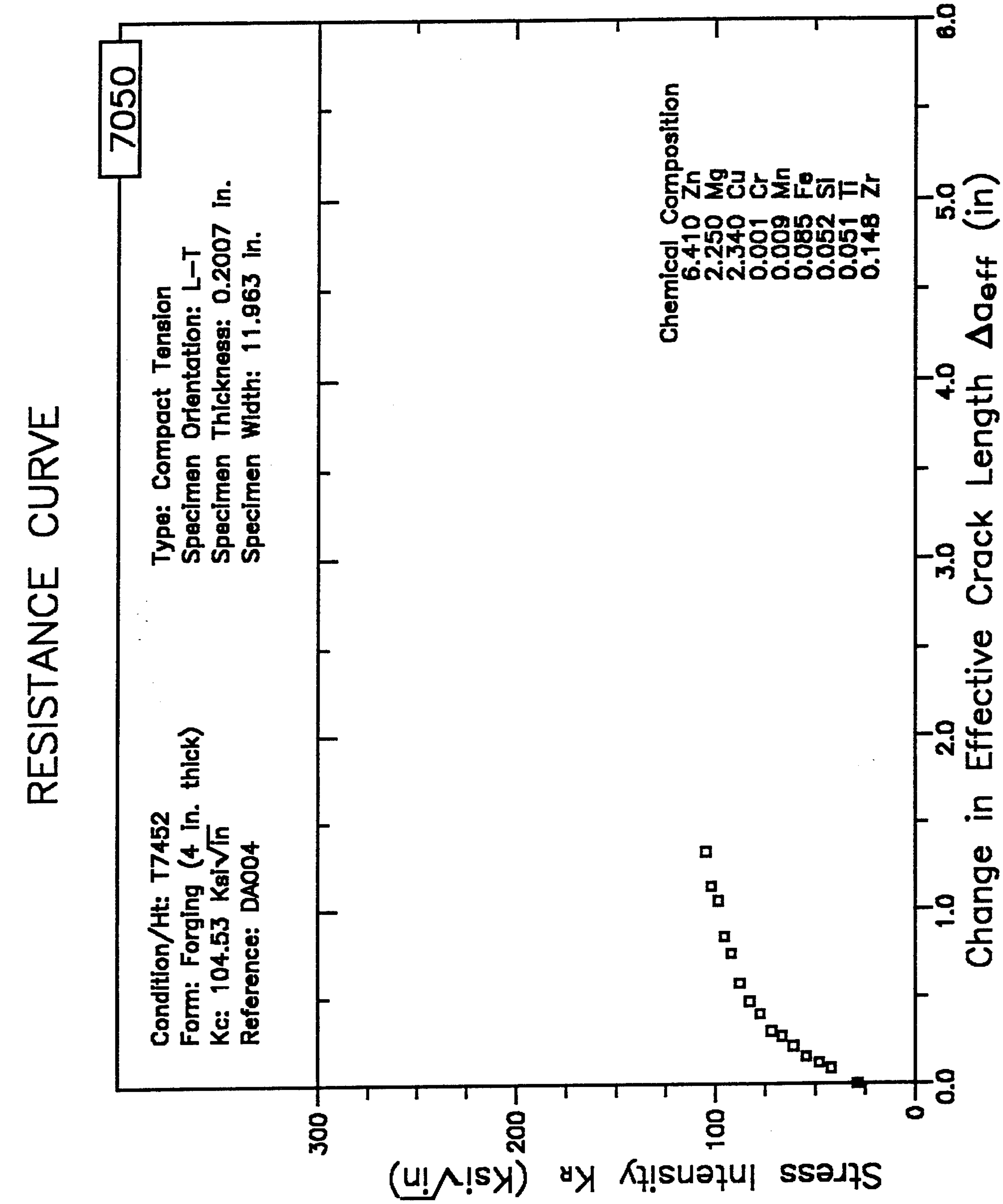
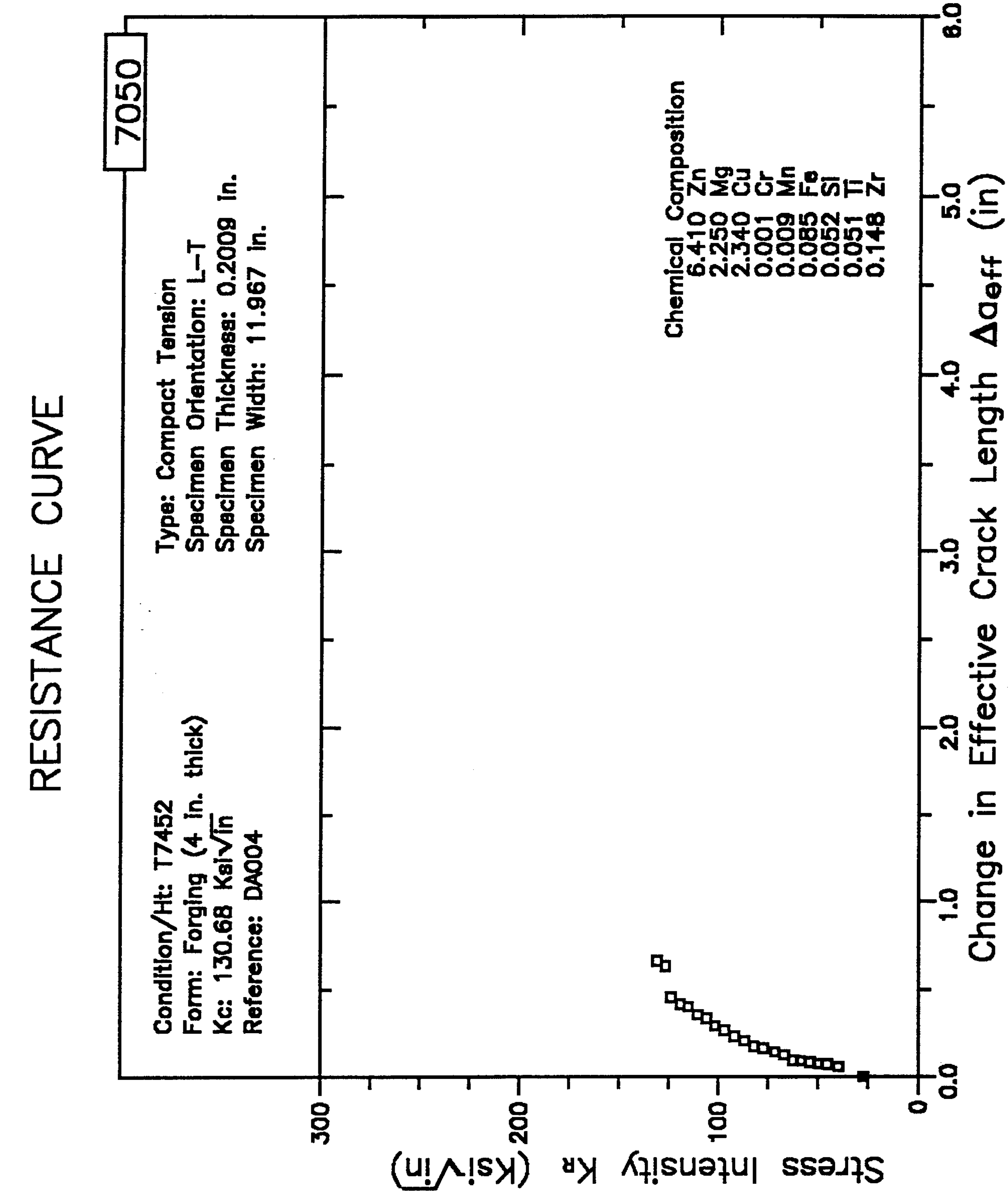


Figure 8.7.2.3.26



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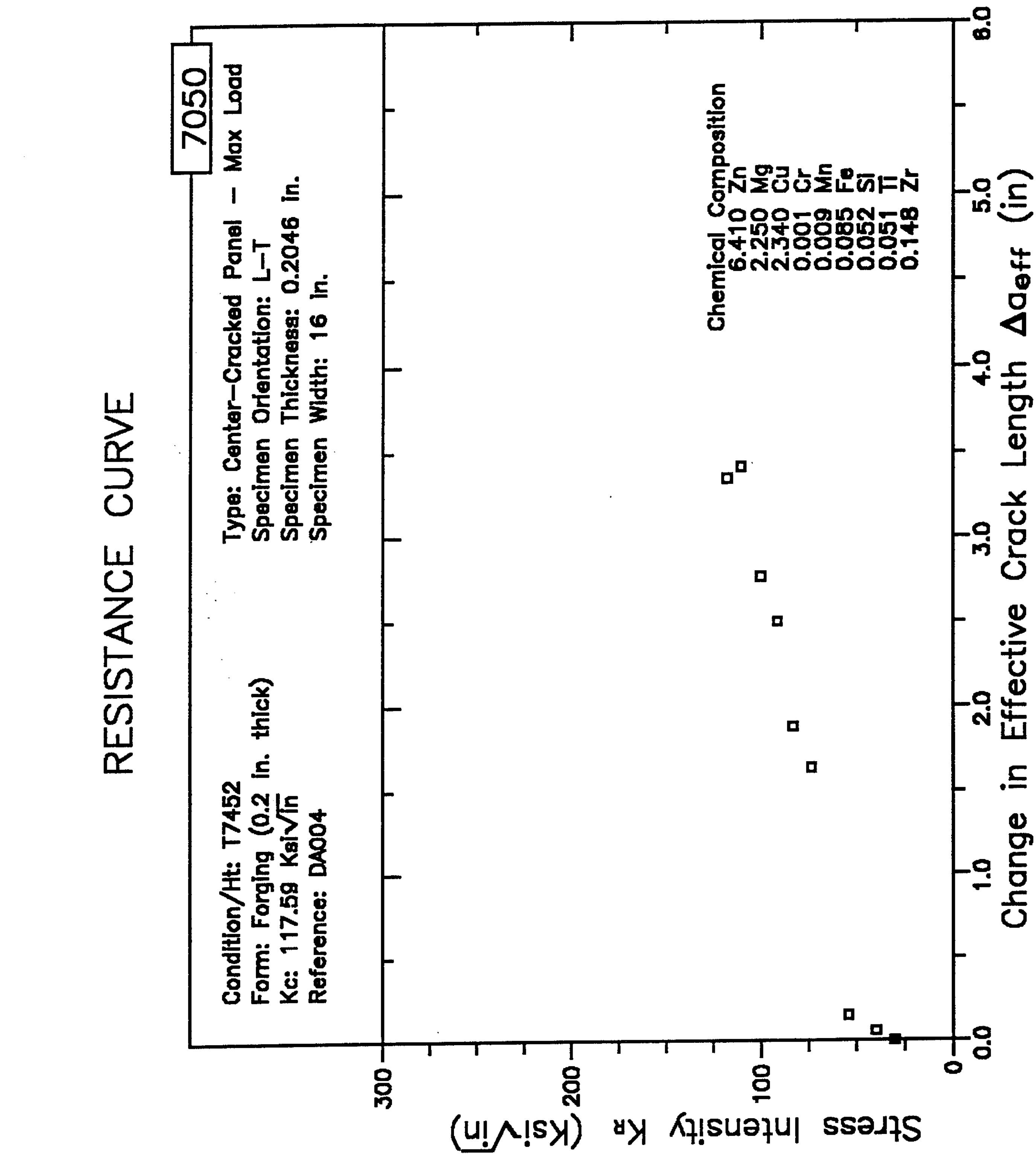
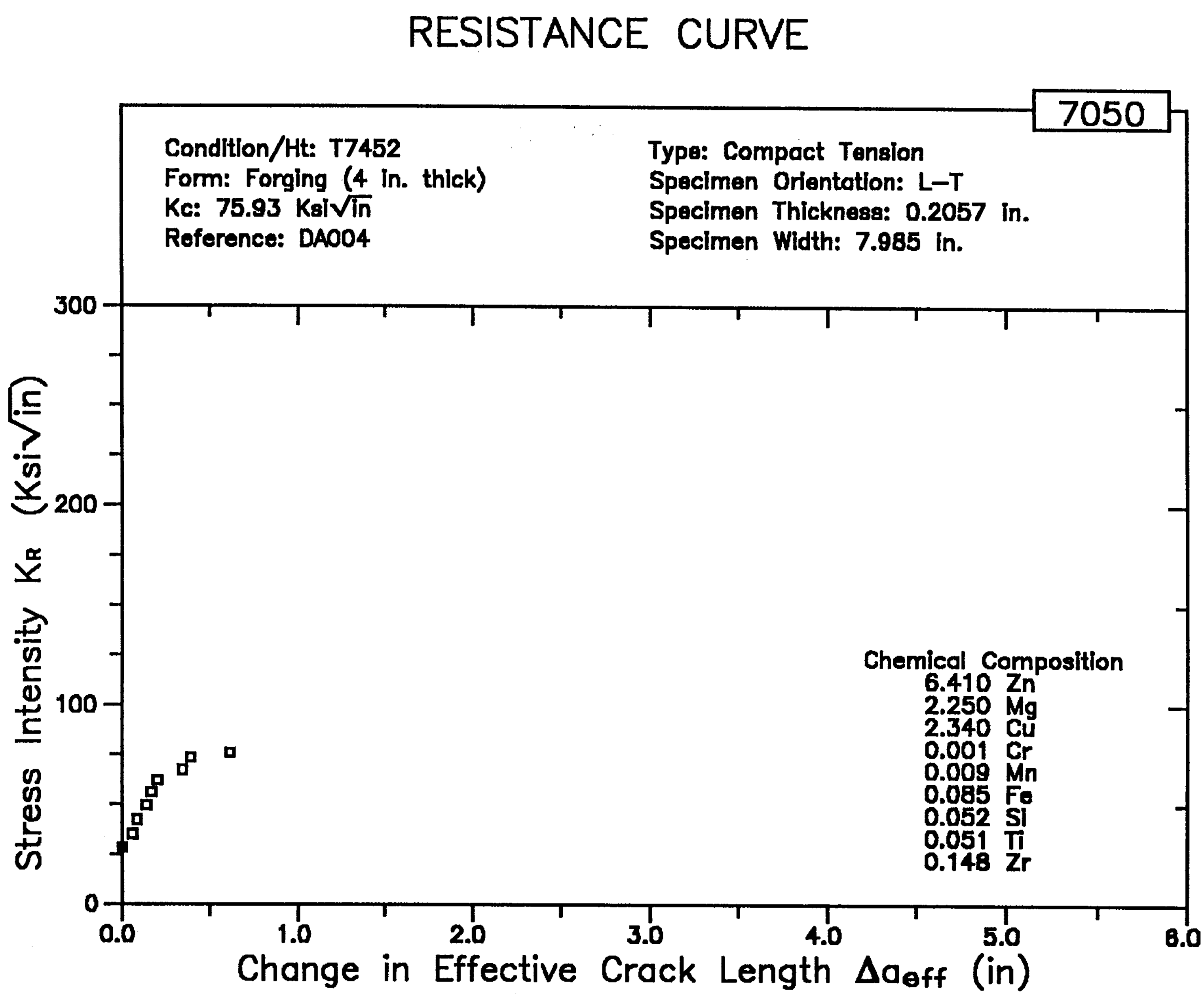


Figure 8.7.2.3.28



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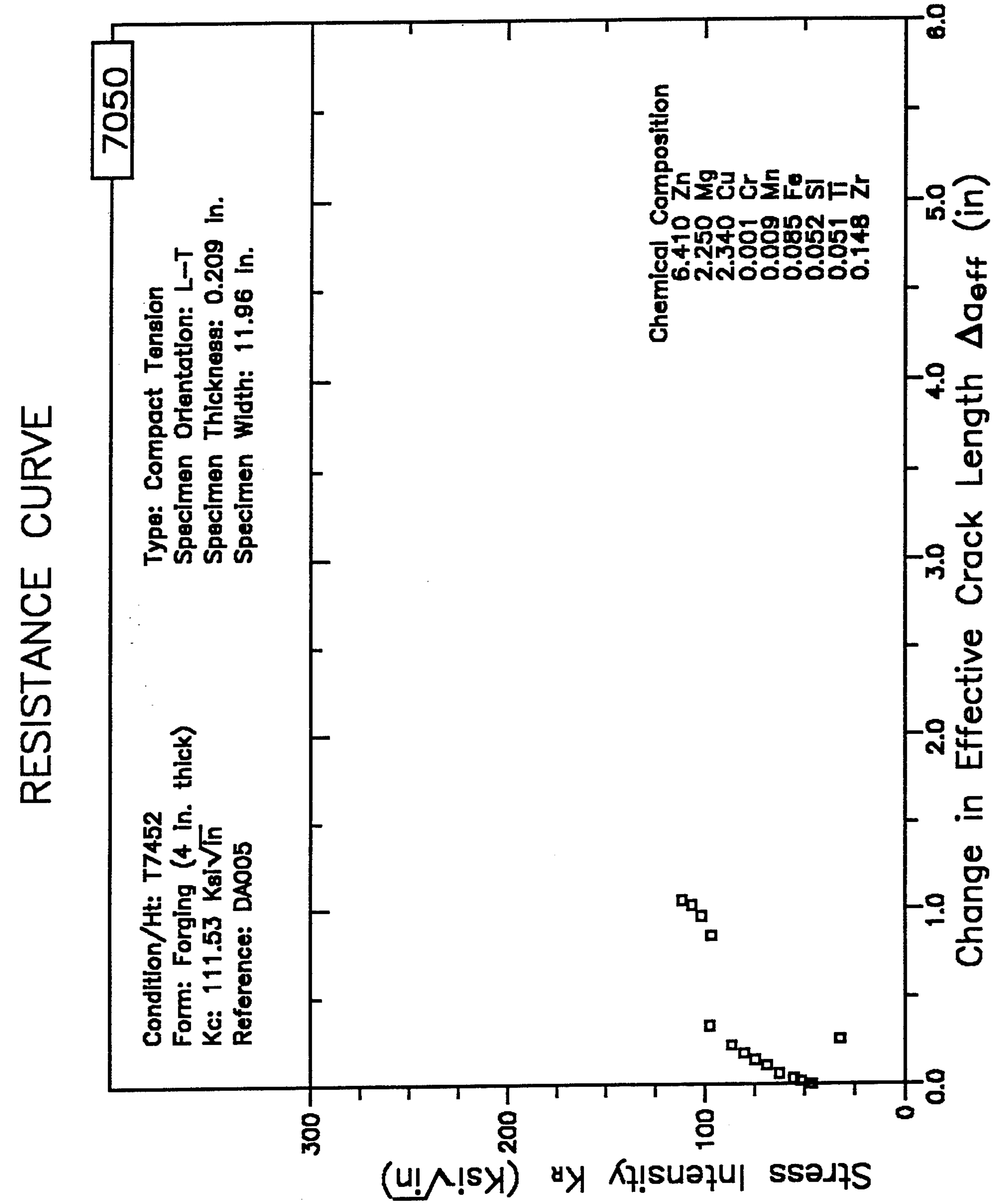

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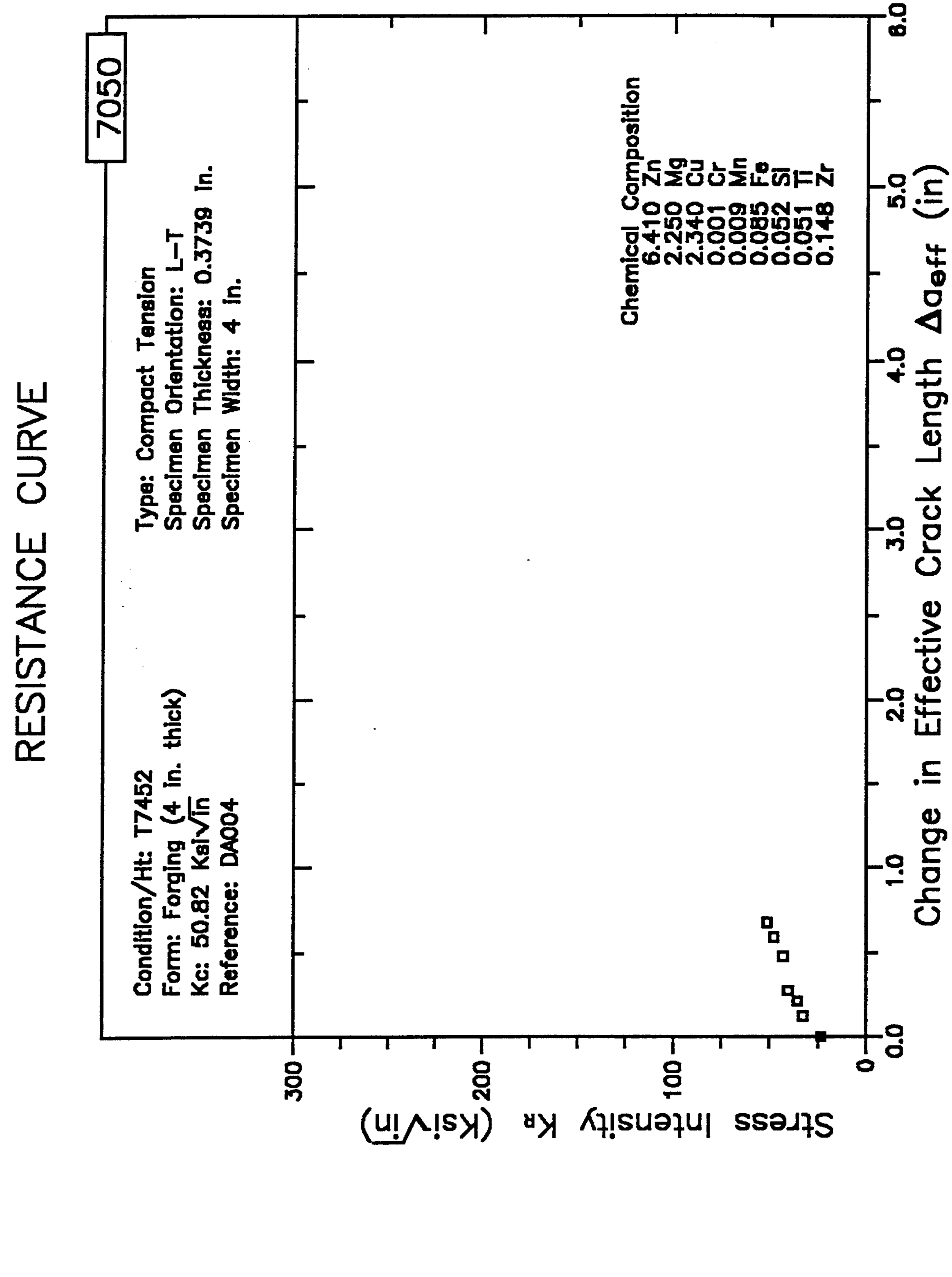

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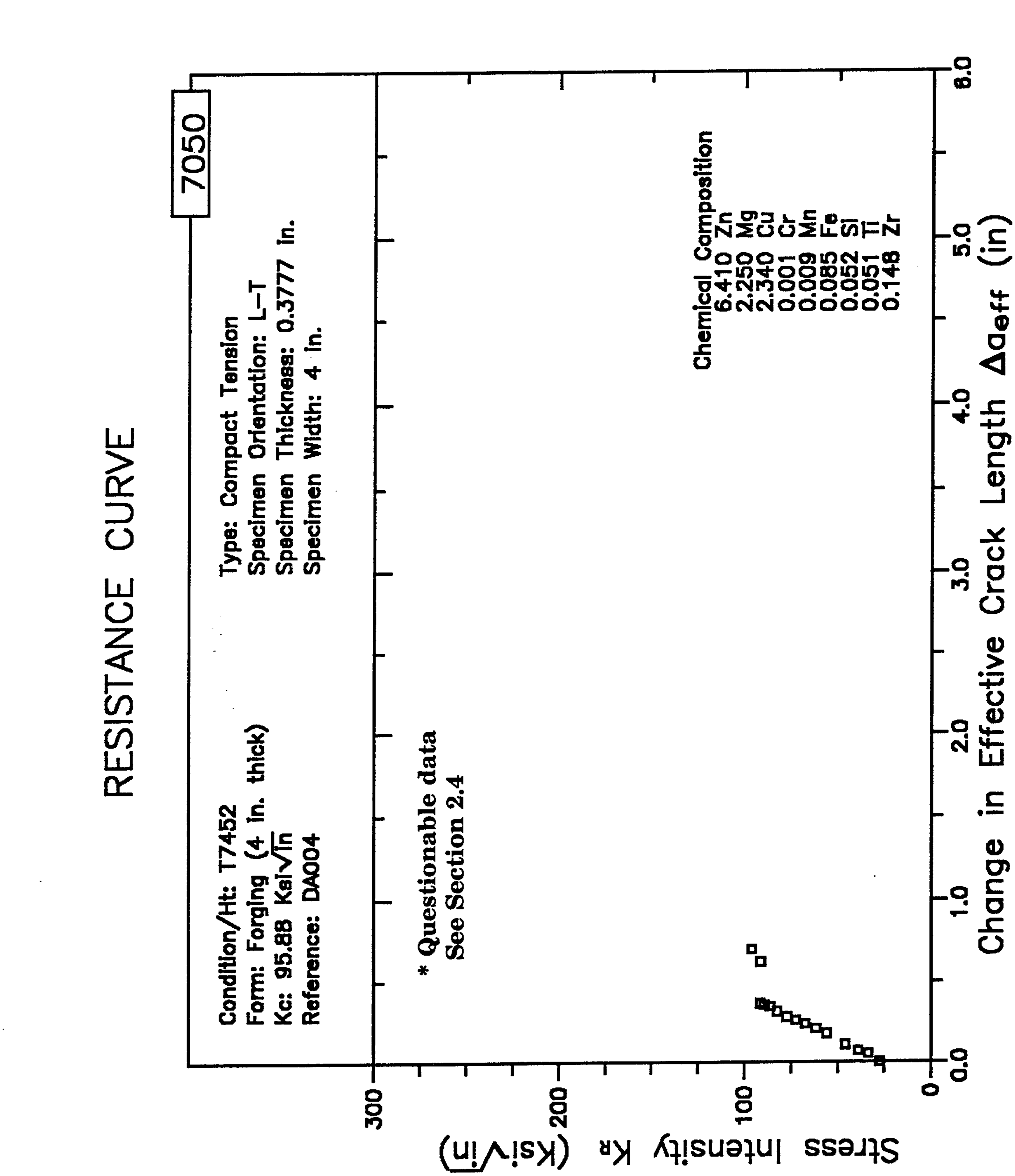

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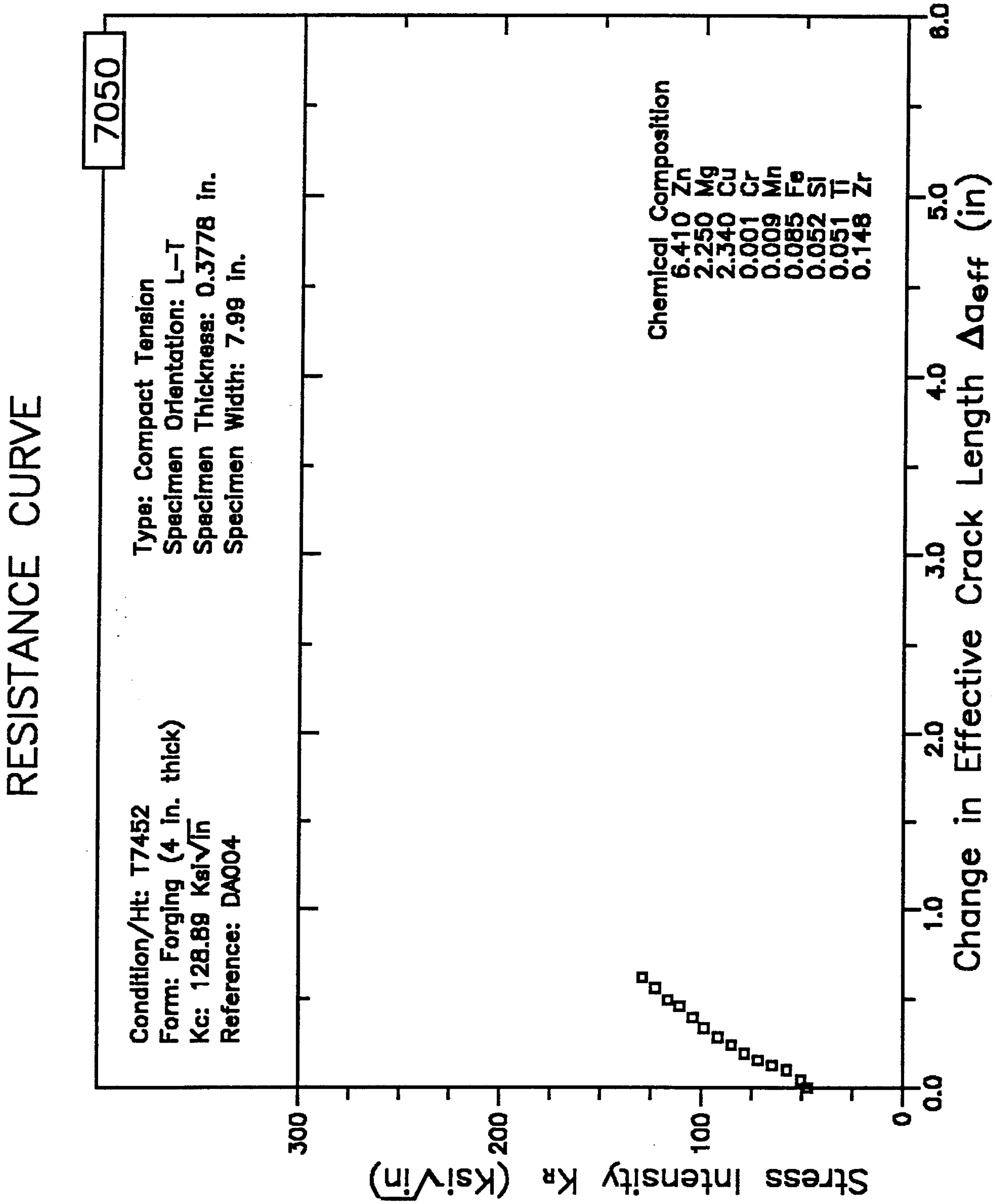

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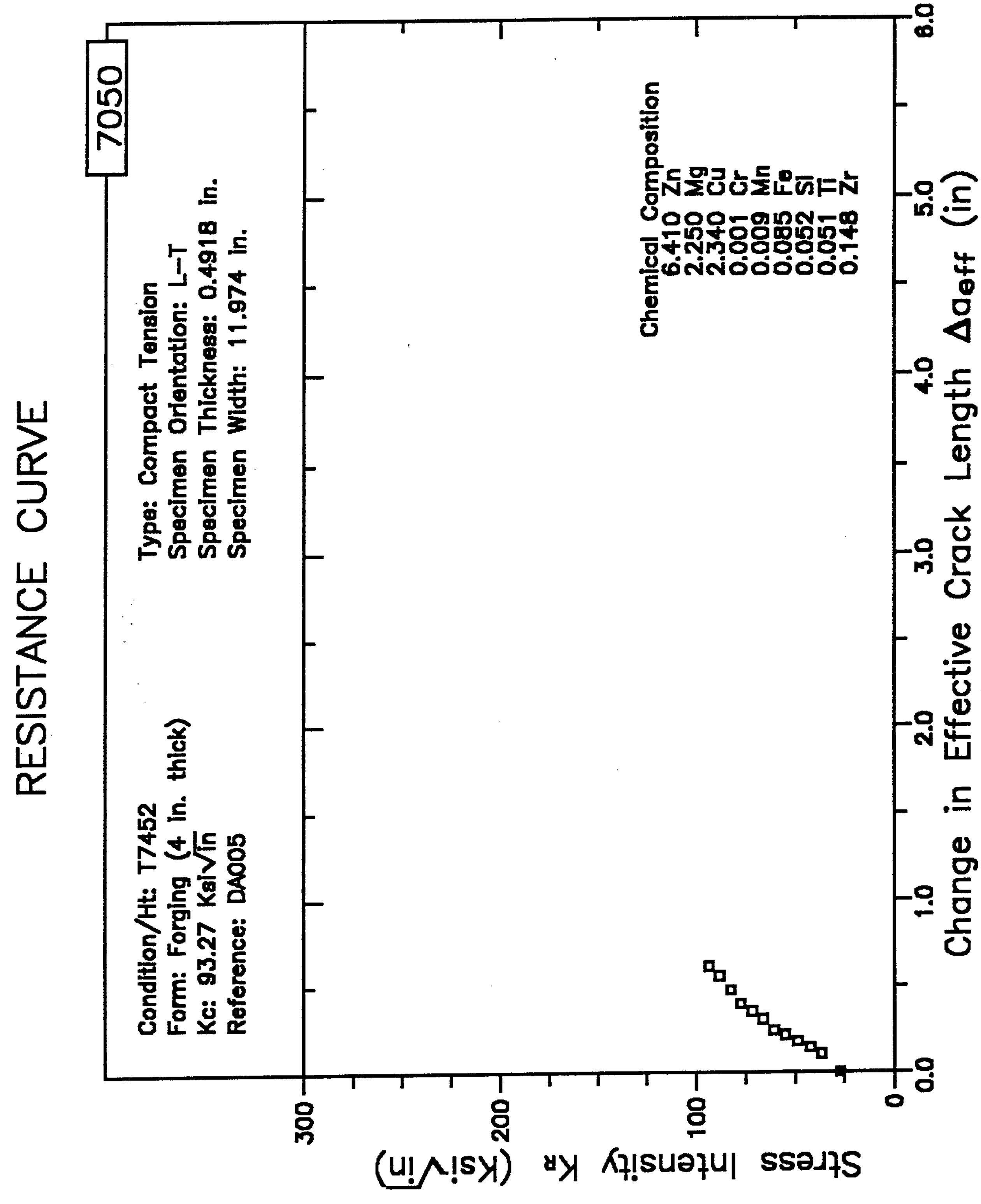


Figure 8.7.2.3.34

RESISTANCE CURVE

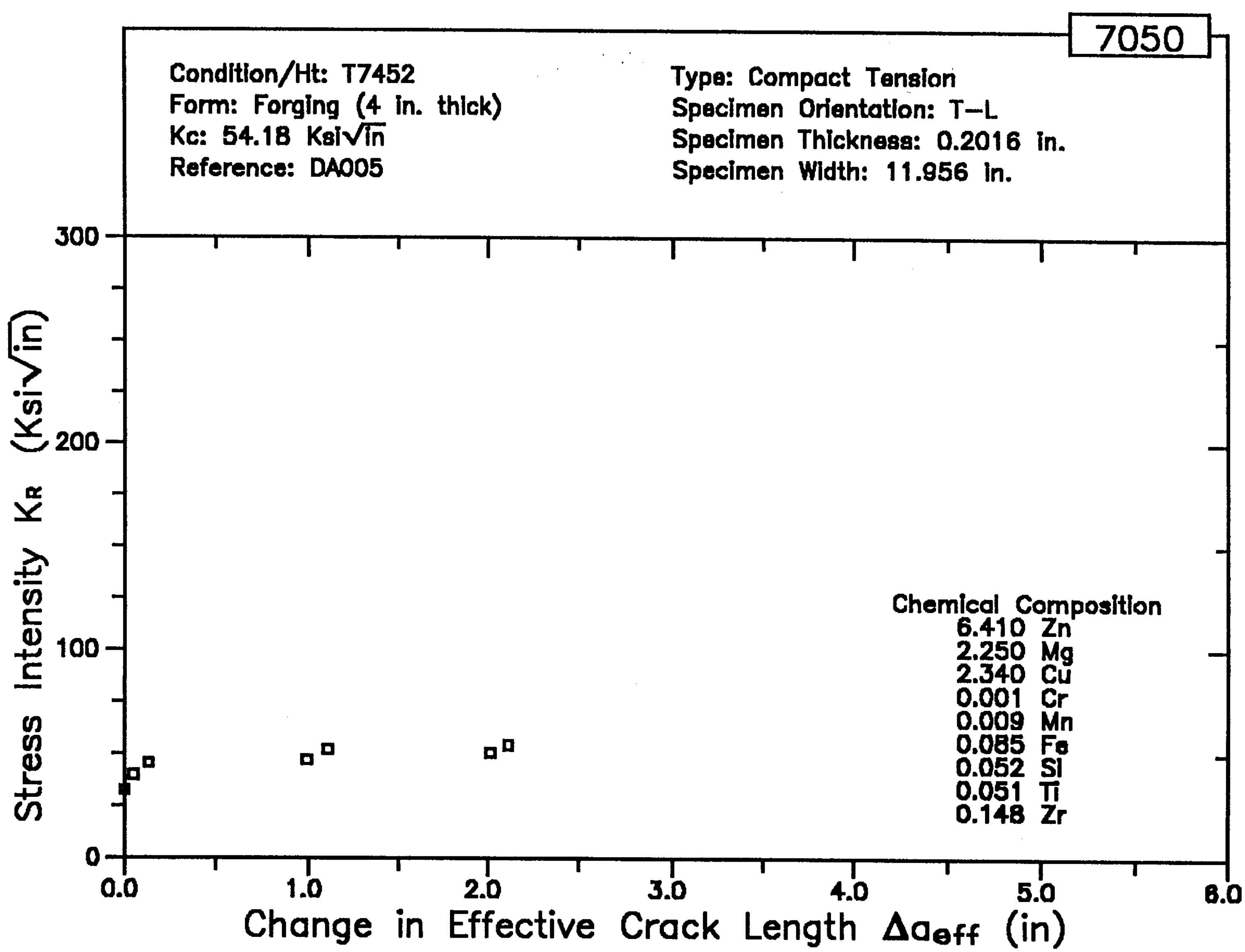
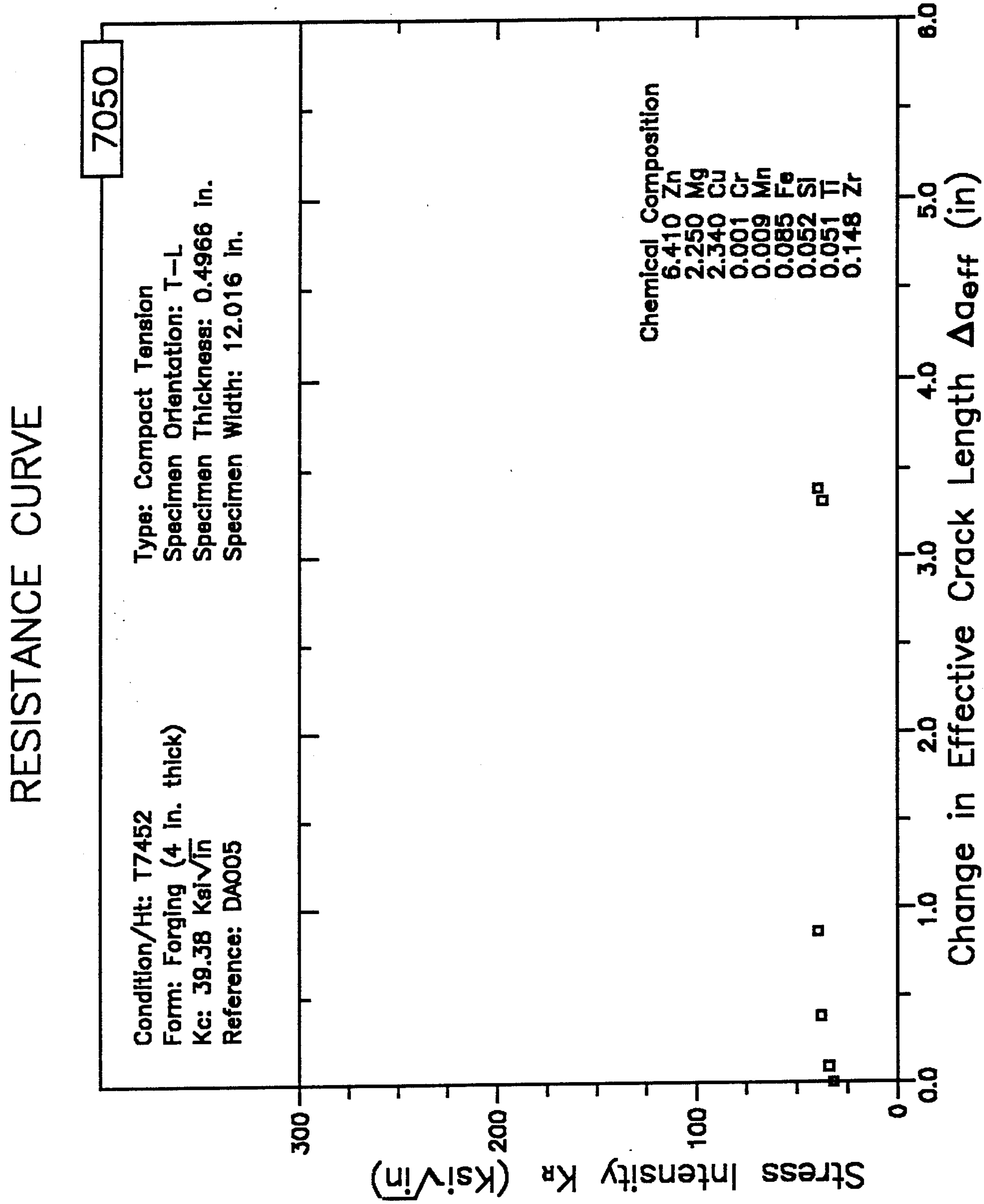


Figure 8.7.2.3.35



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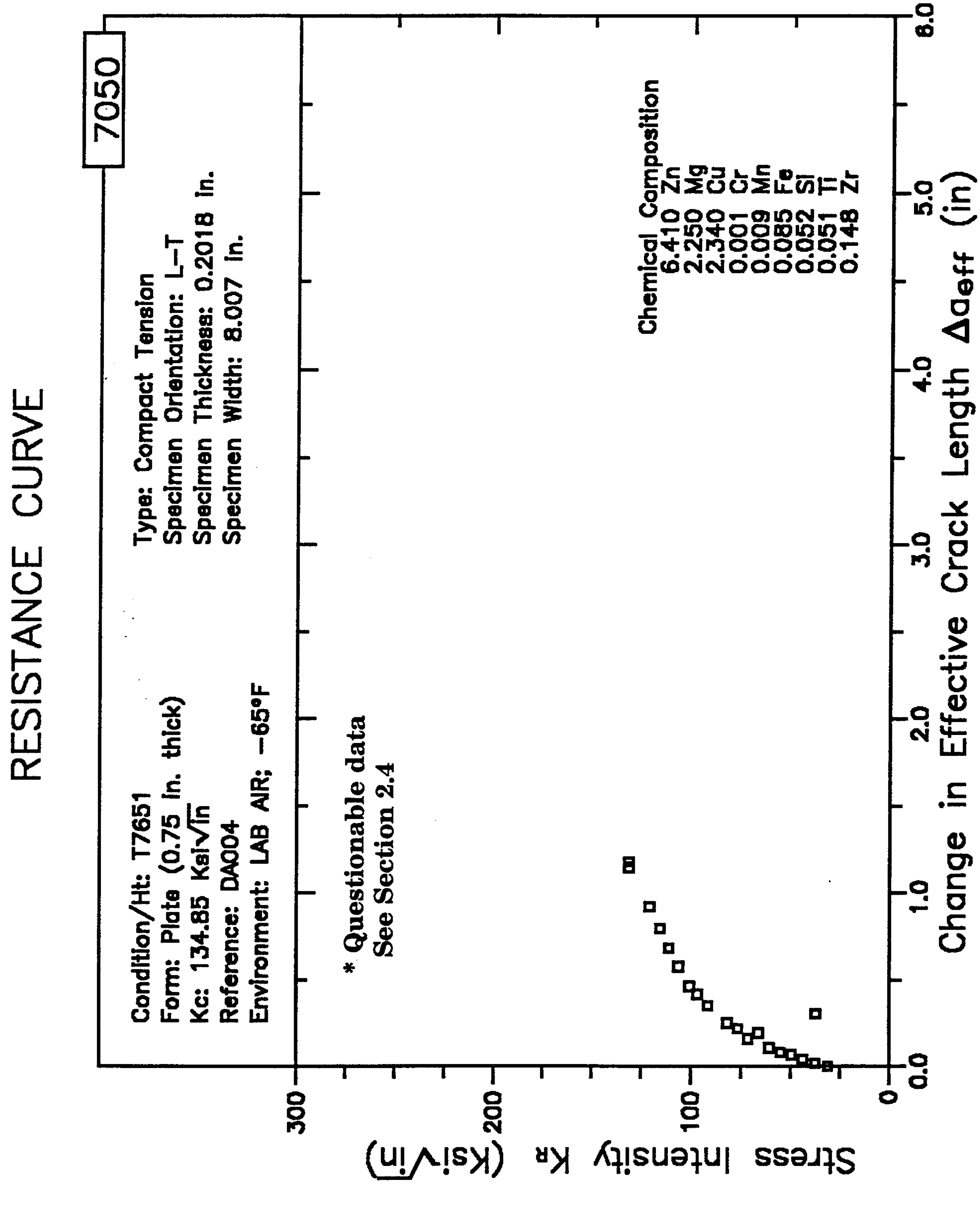


Figure 8.7.2.3.37

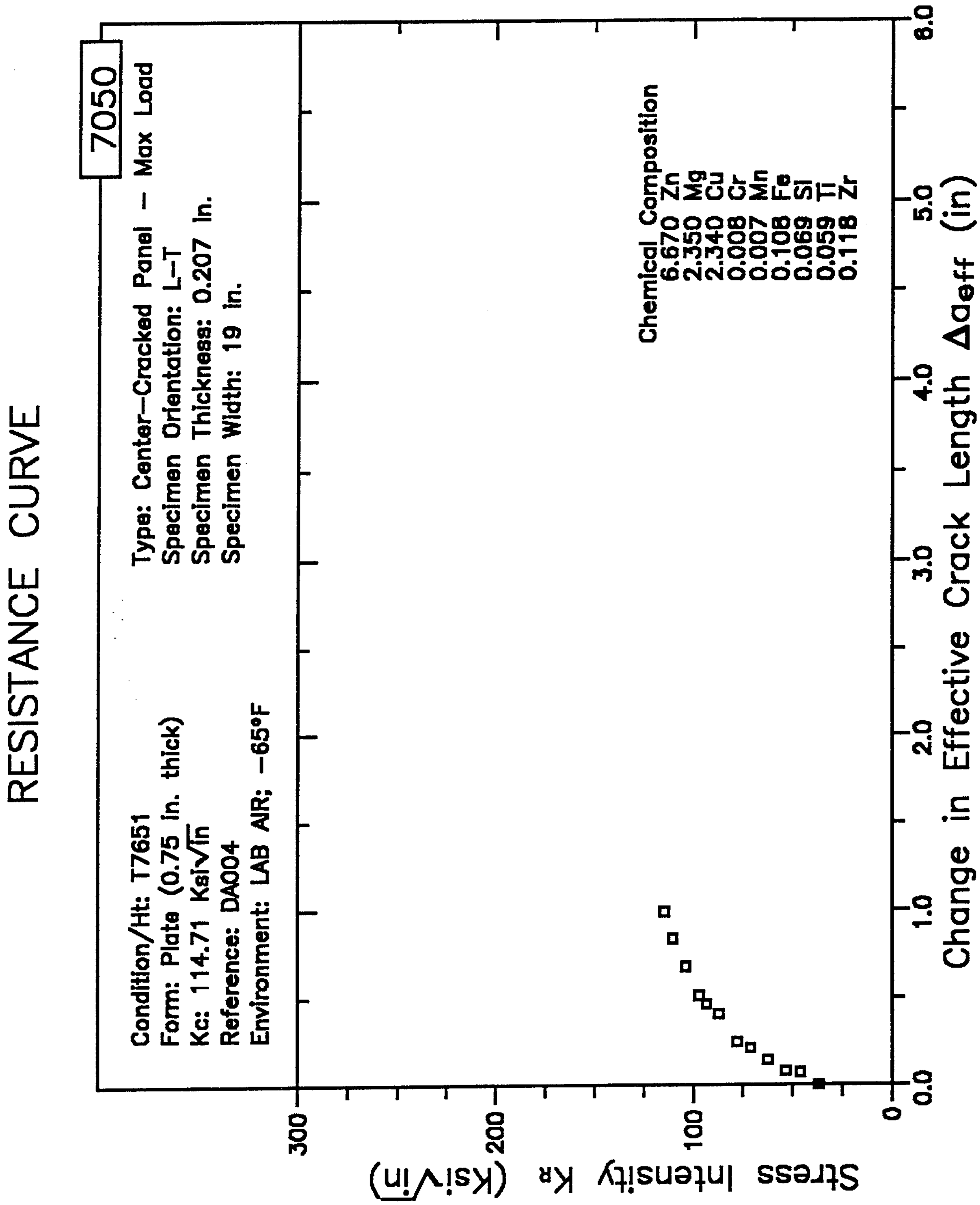


Figure 8.7.2.3.38

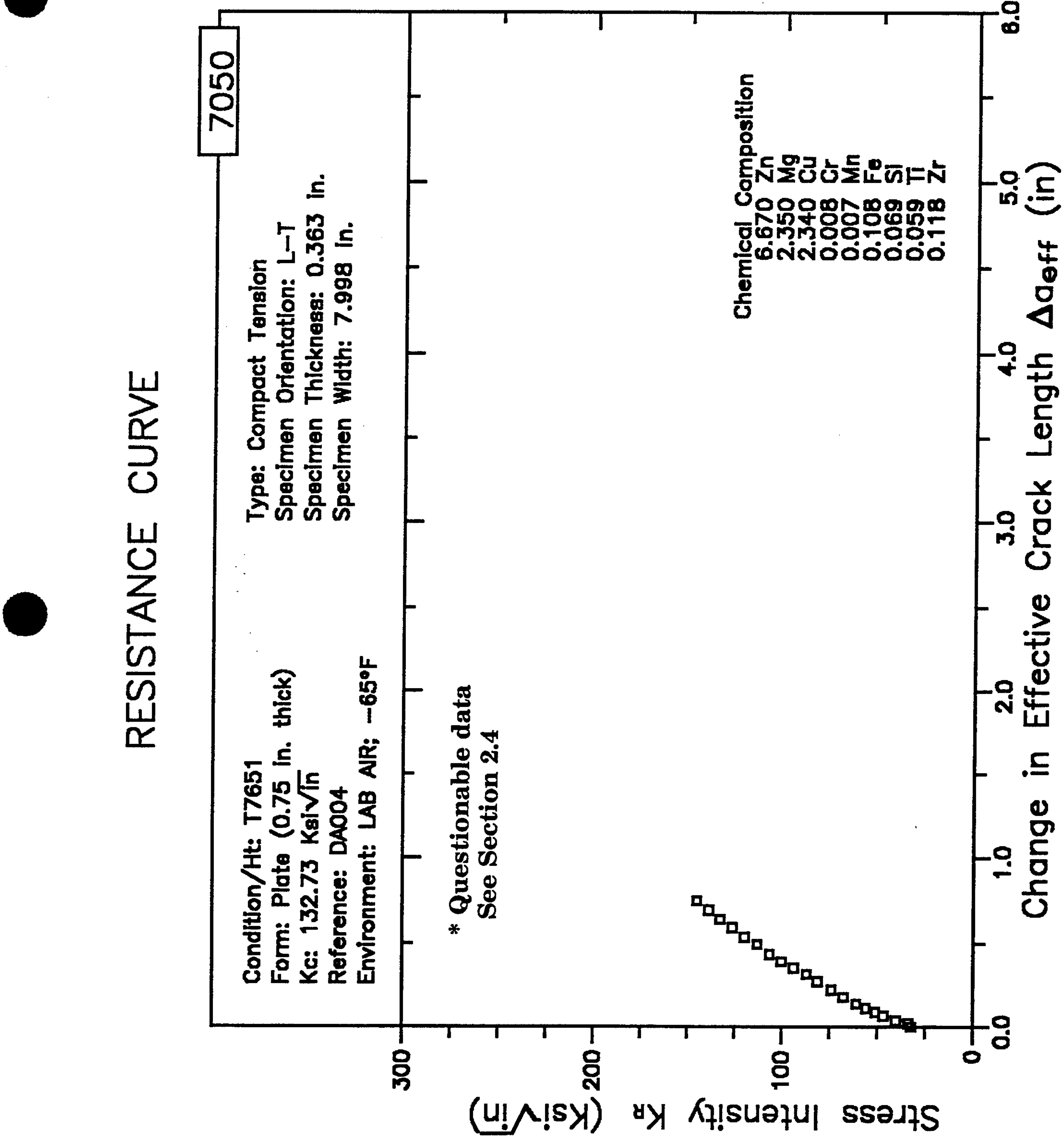
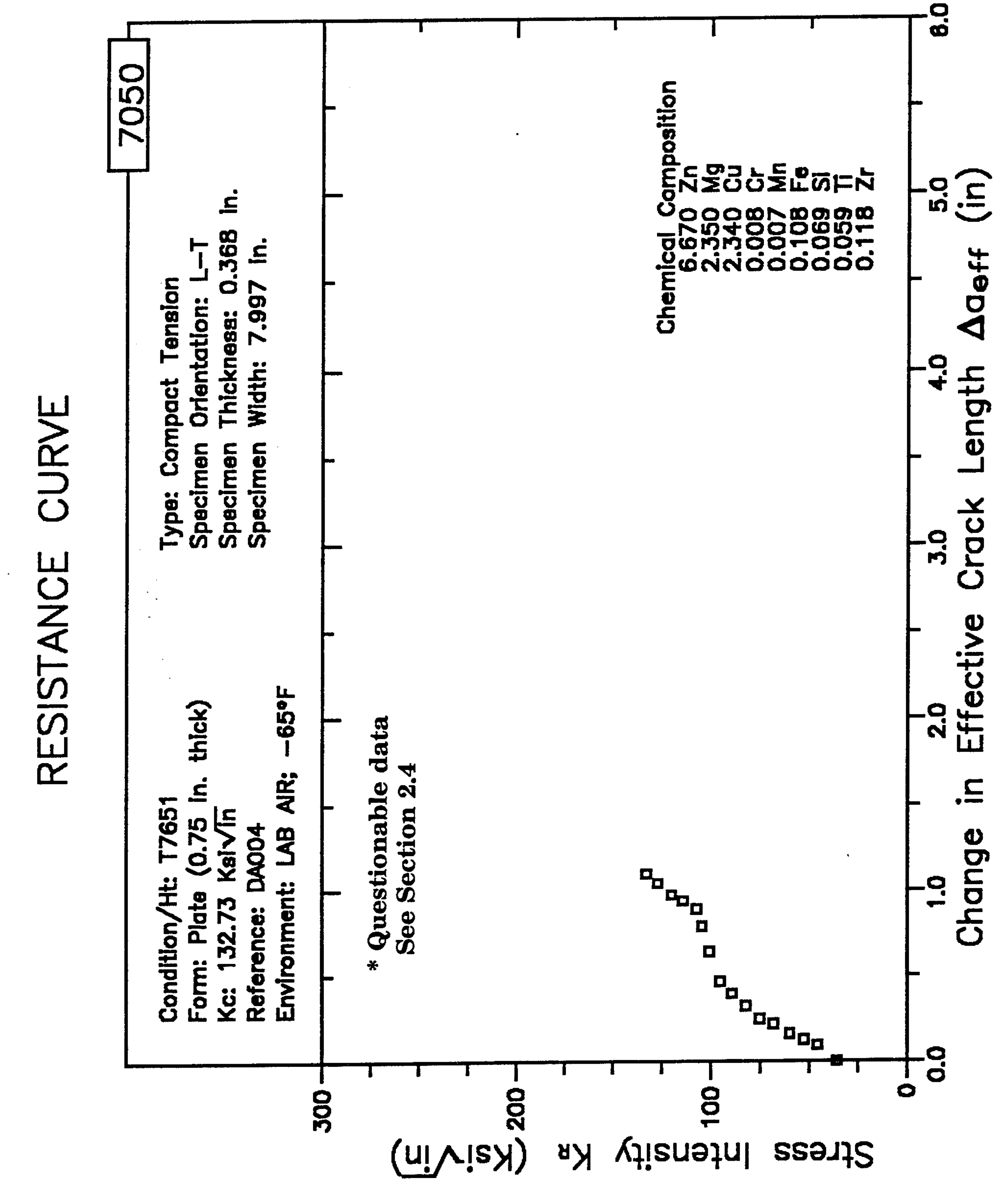


Figure 8.7.2.3.39



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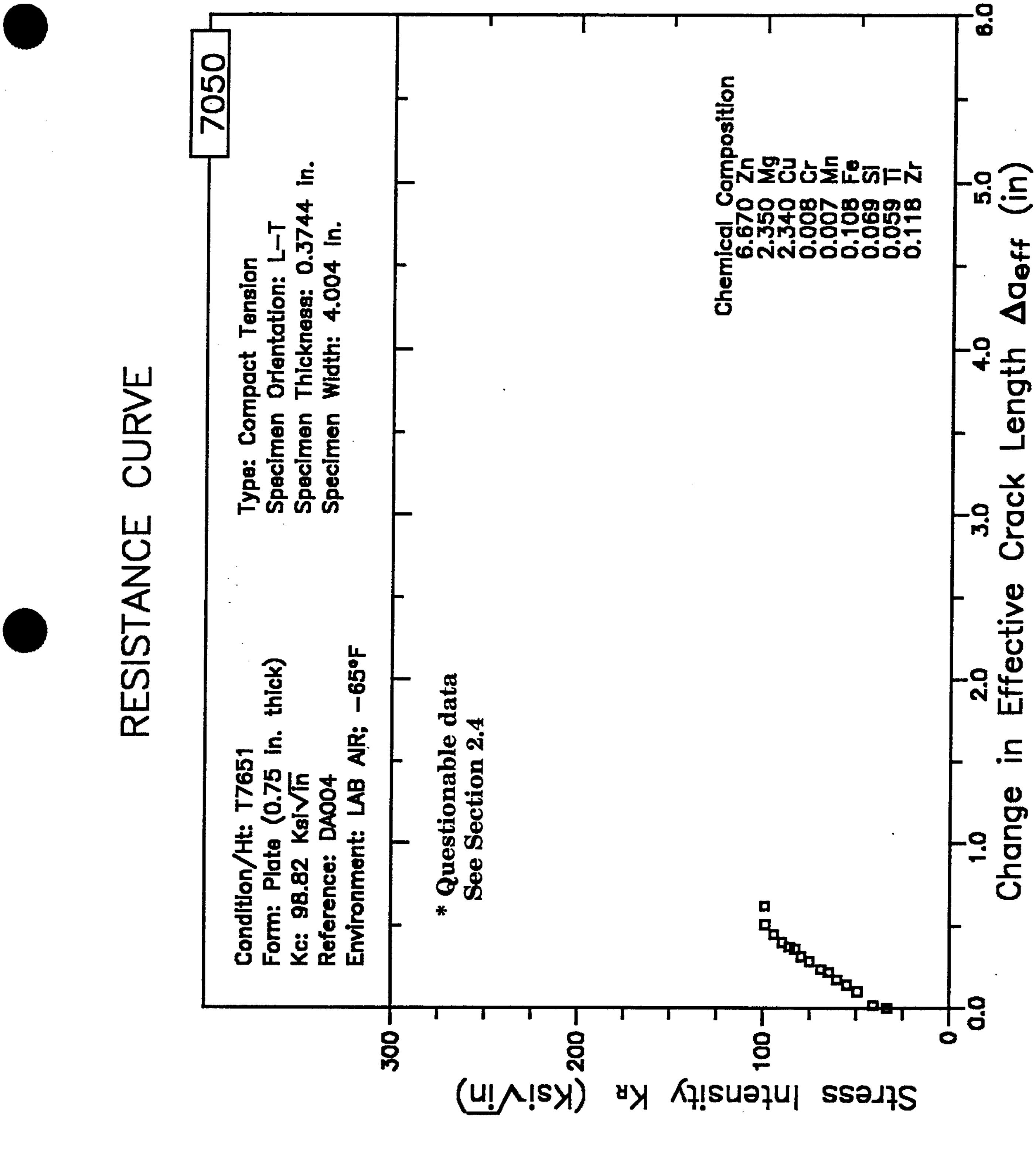
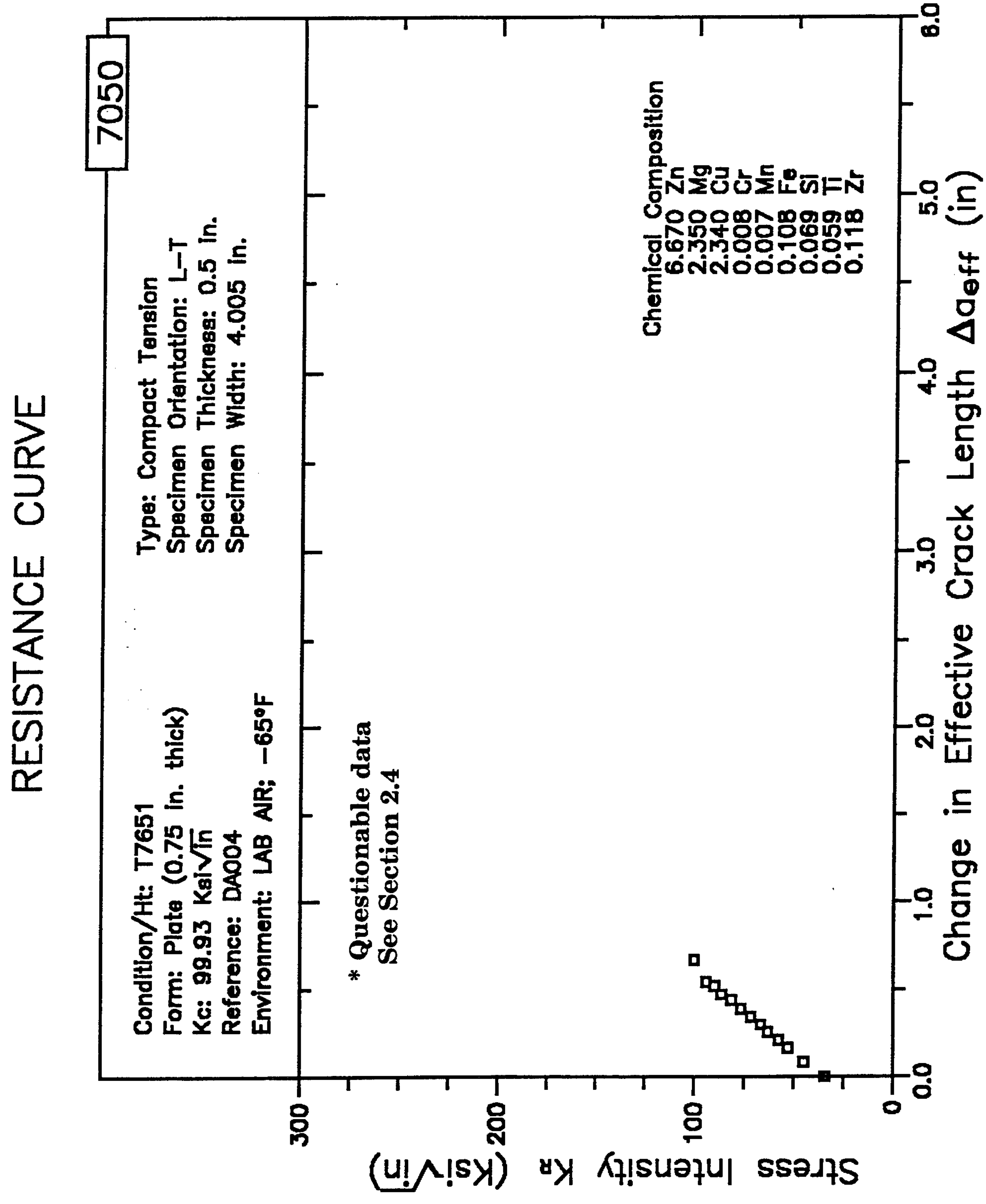


Figure 8.7.2.3.41



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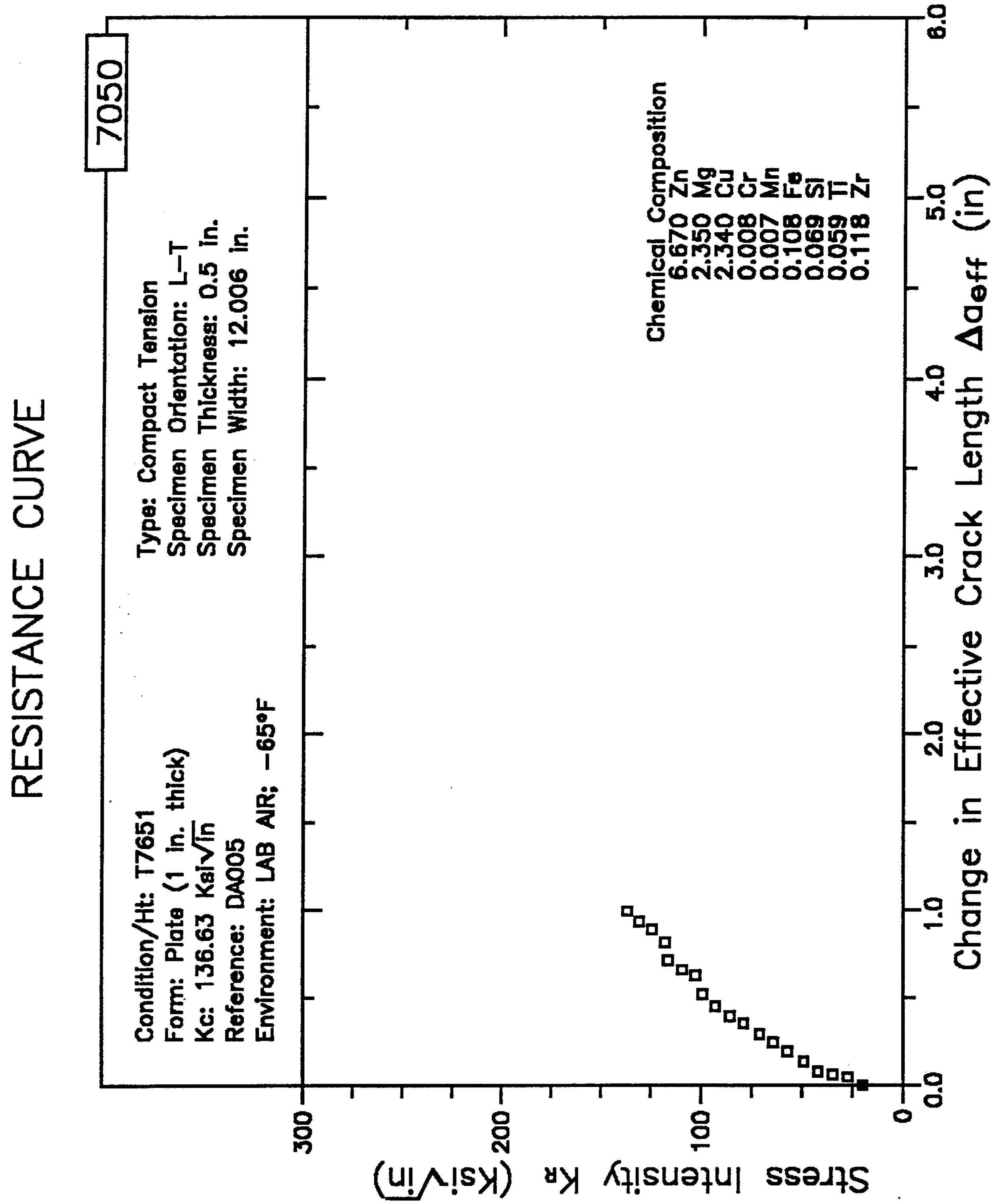

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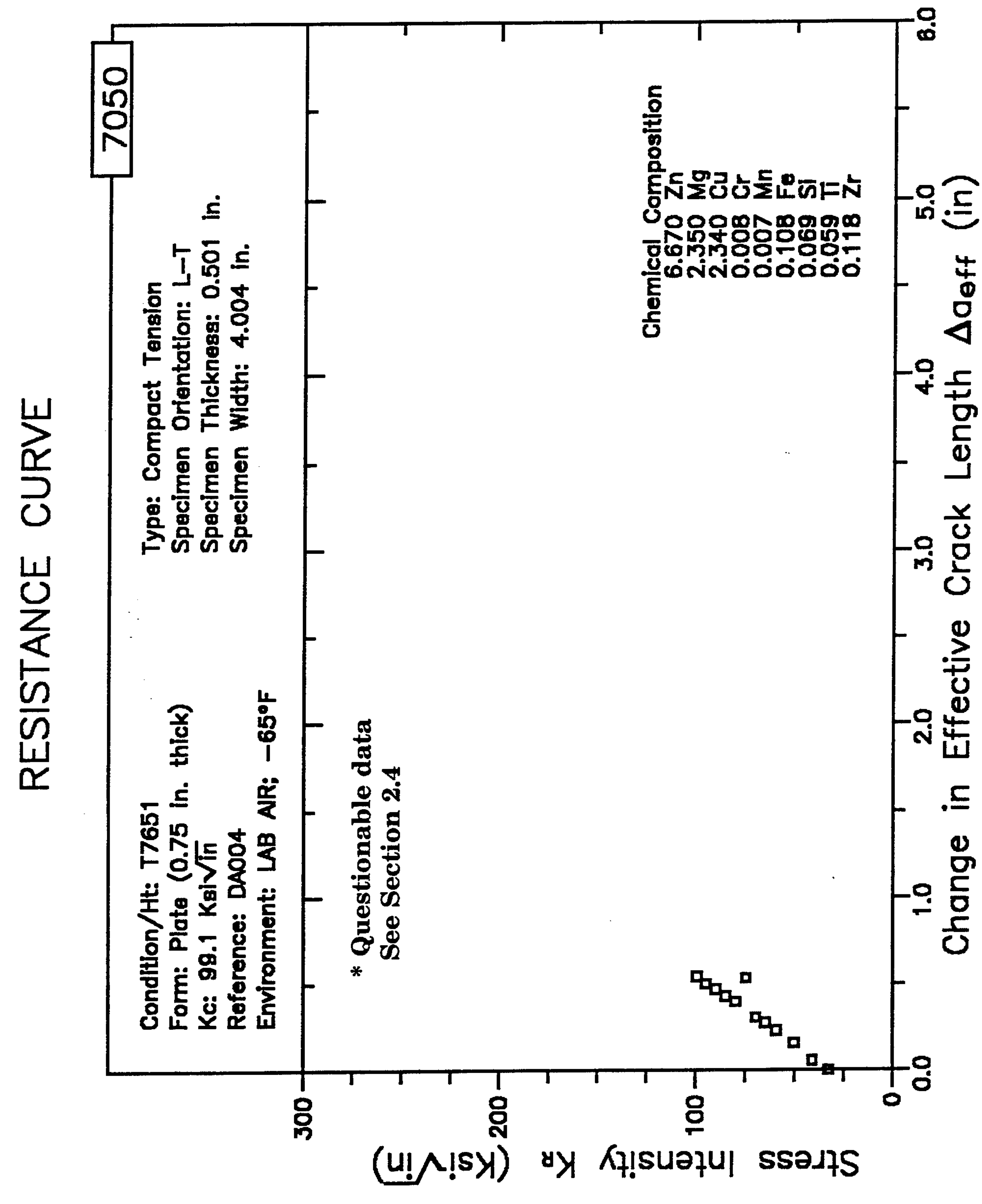

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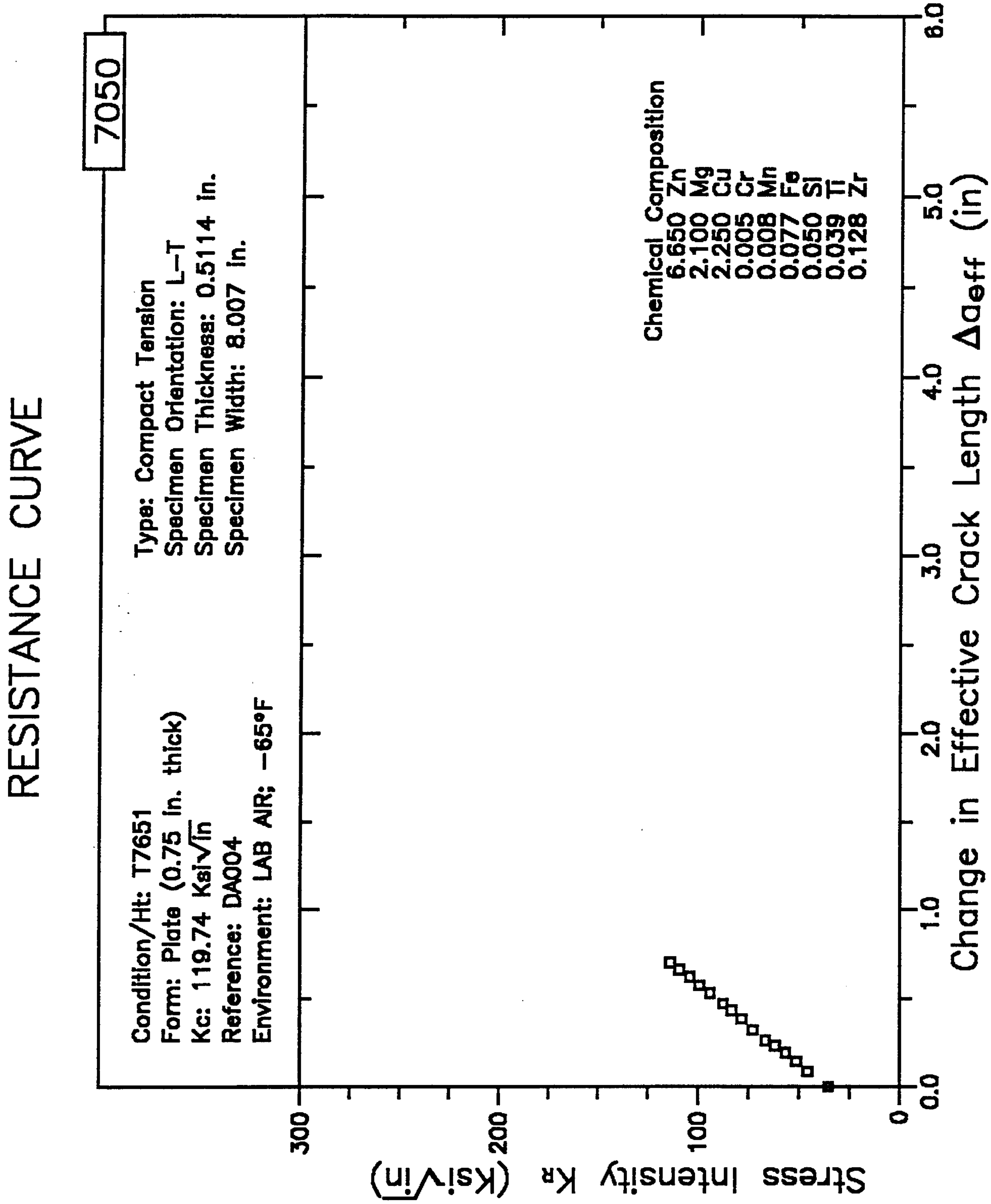

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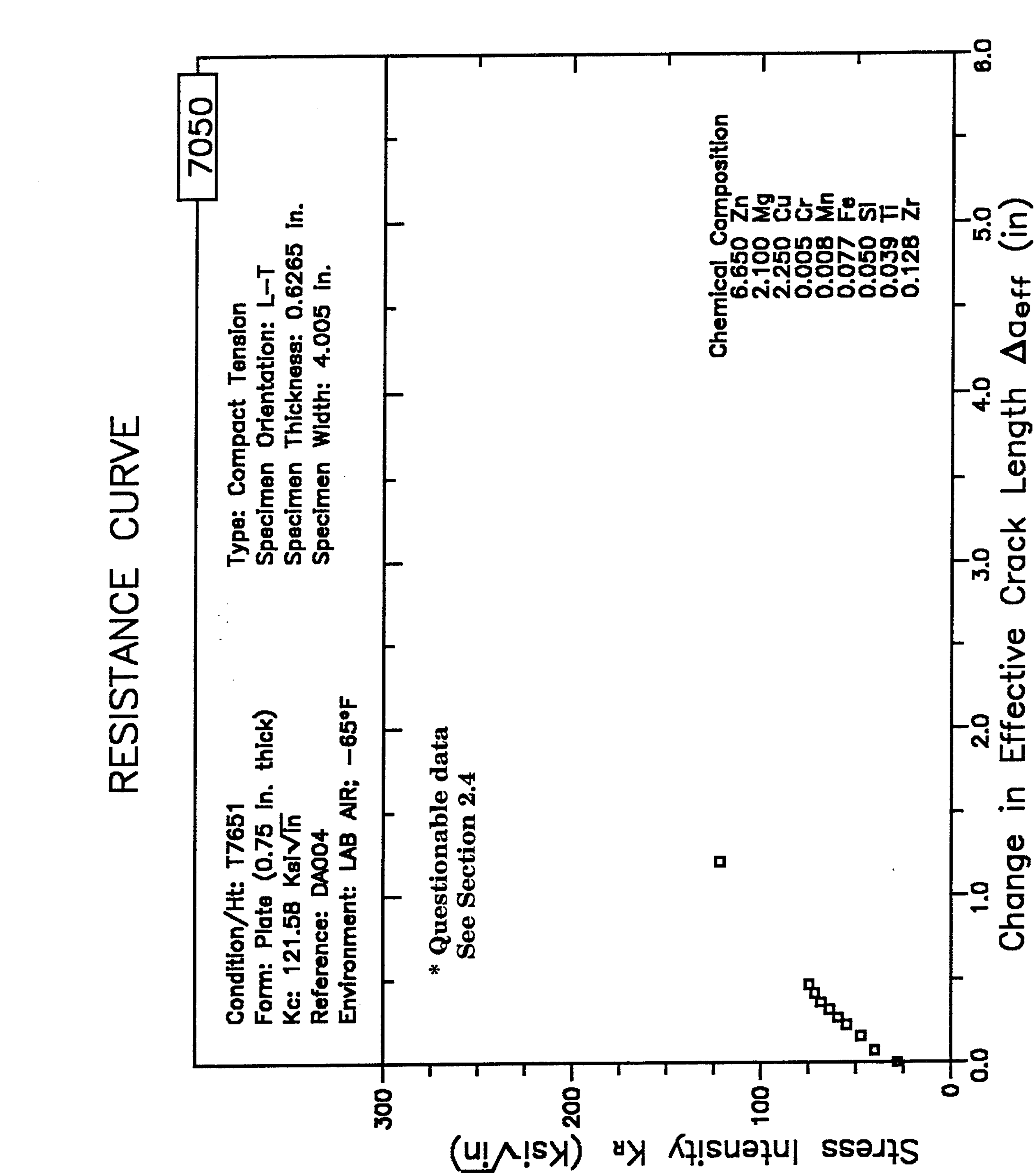

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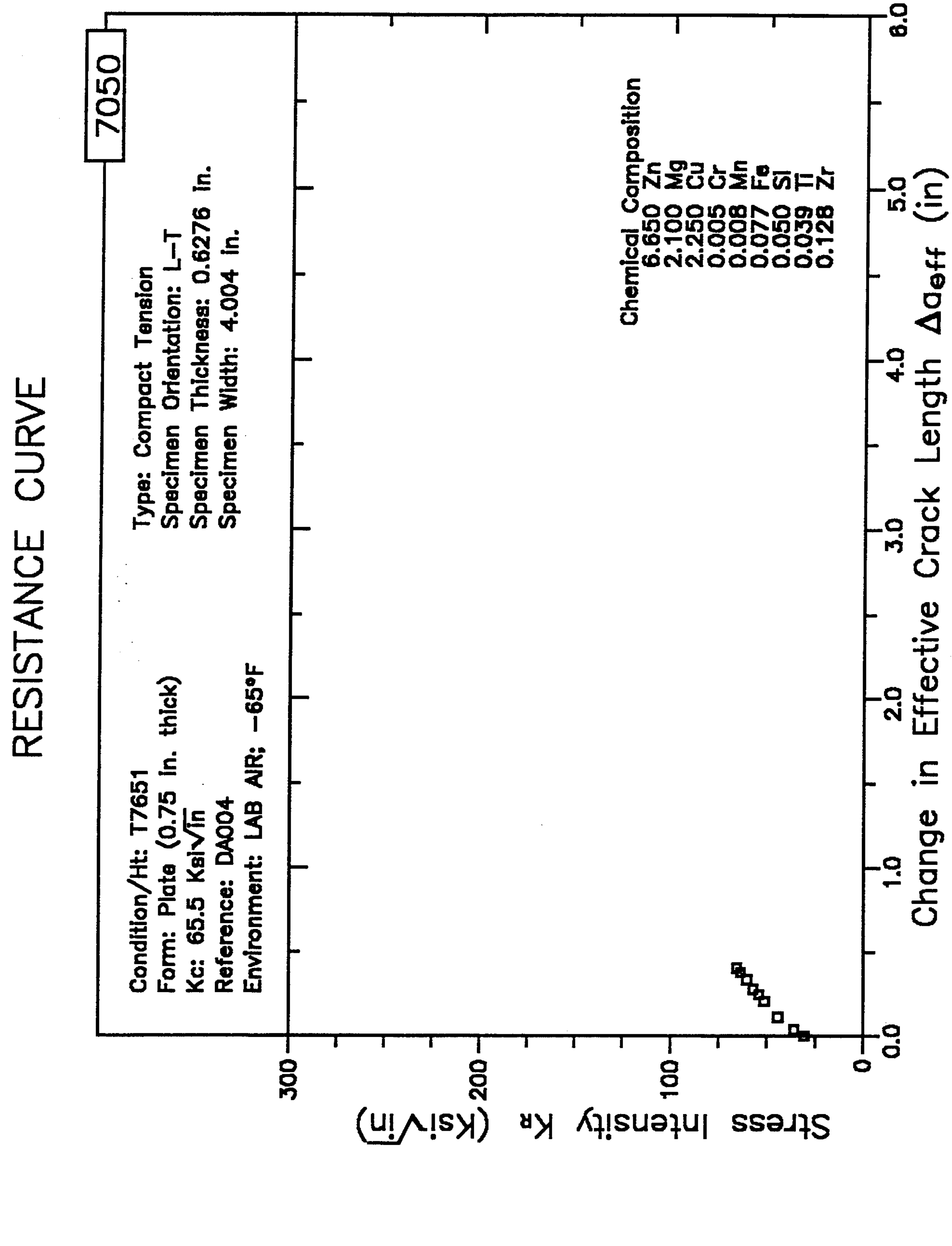

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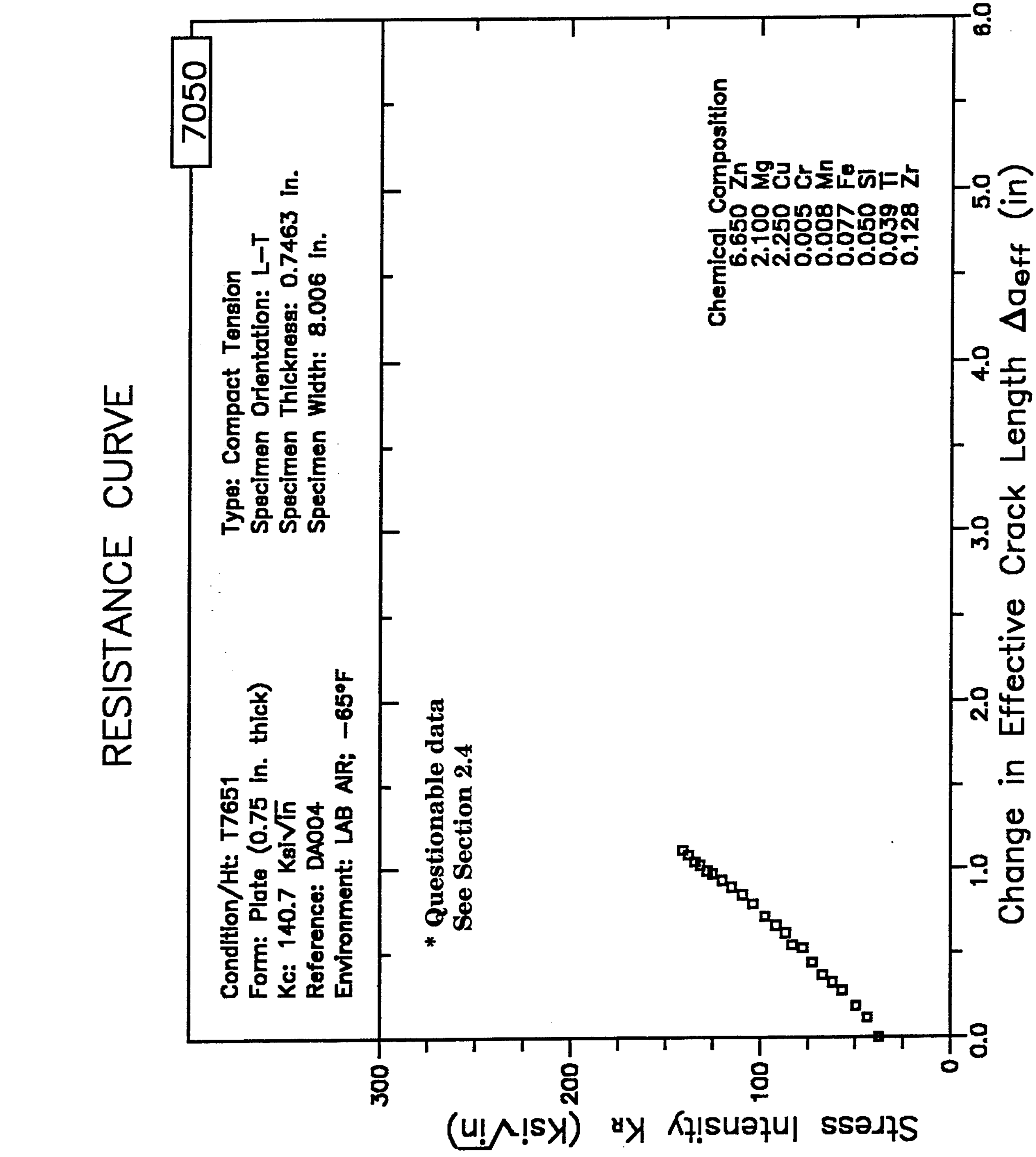

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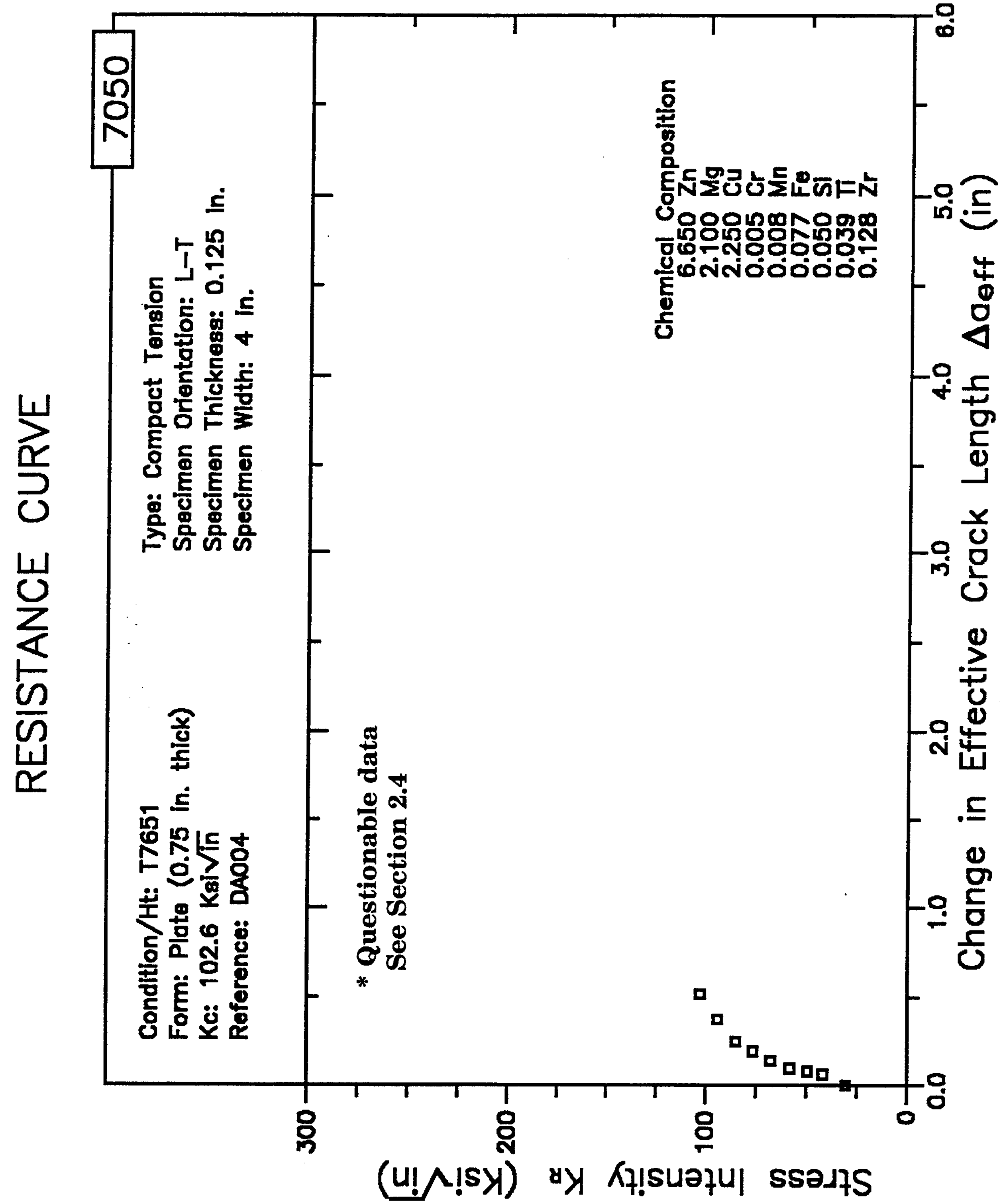

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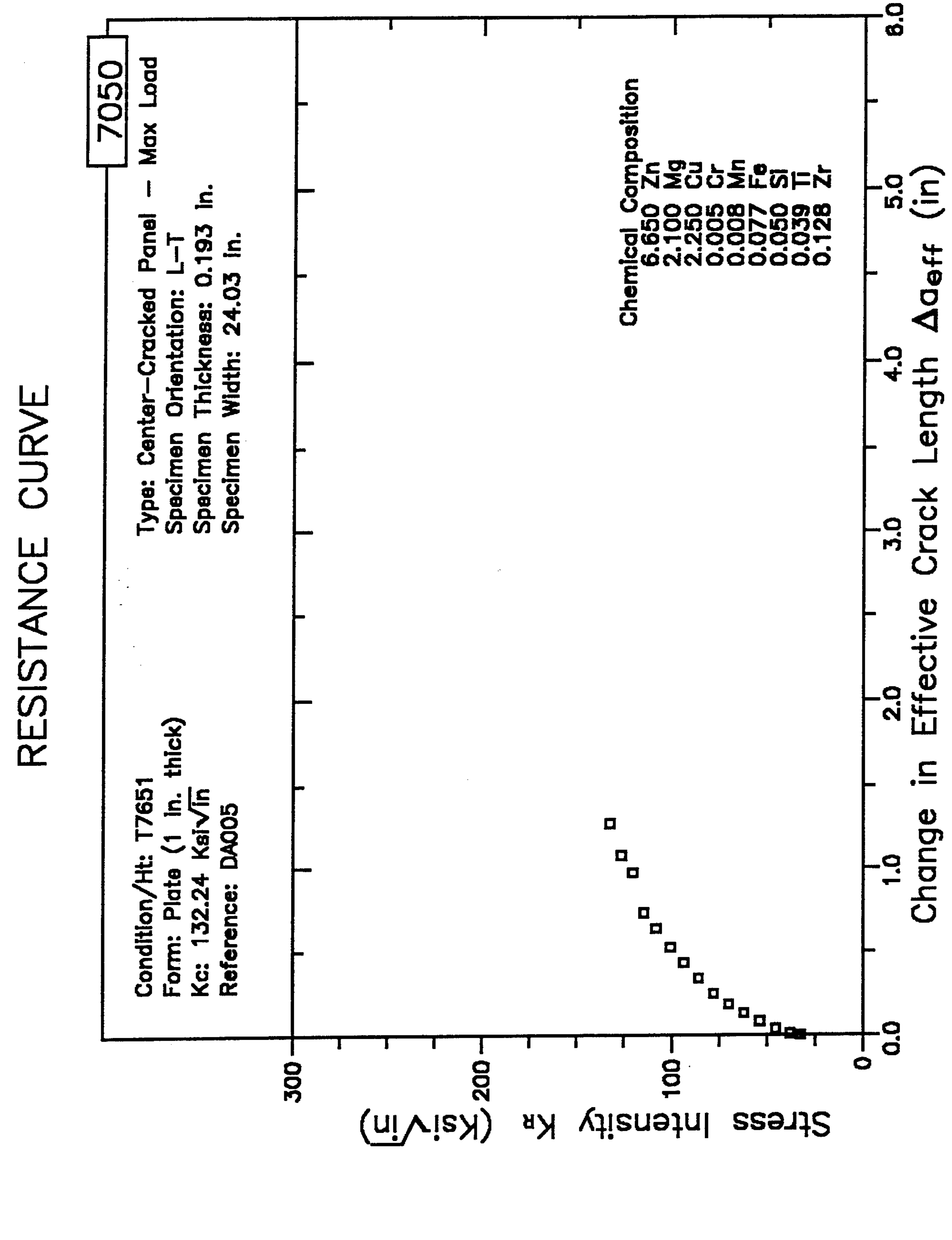
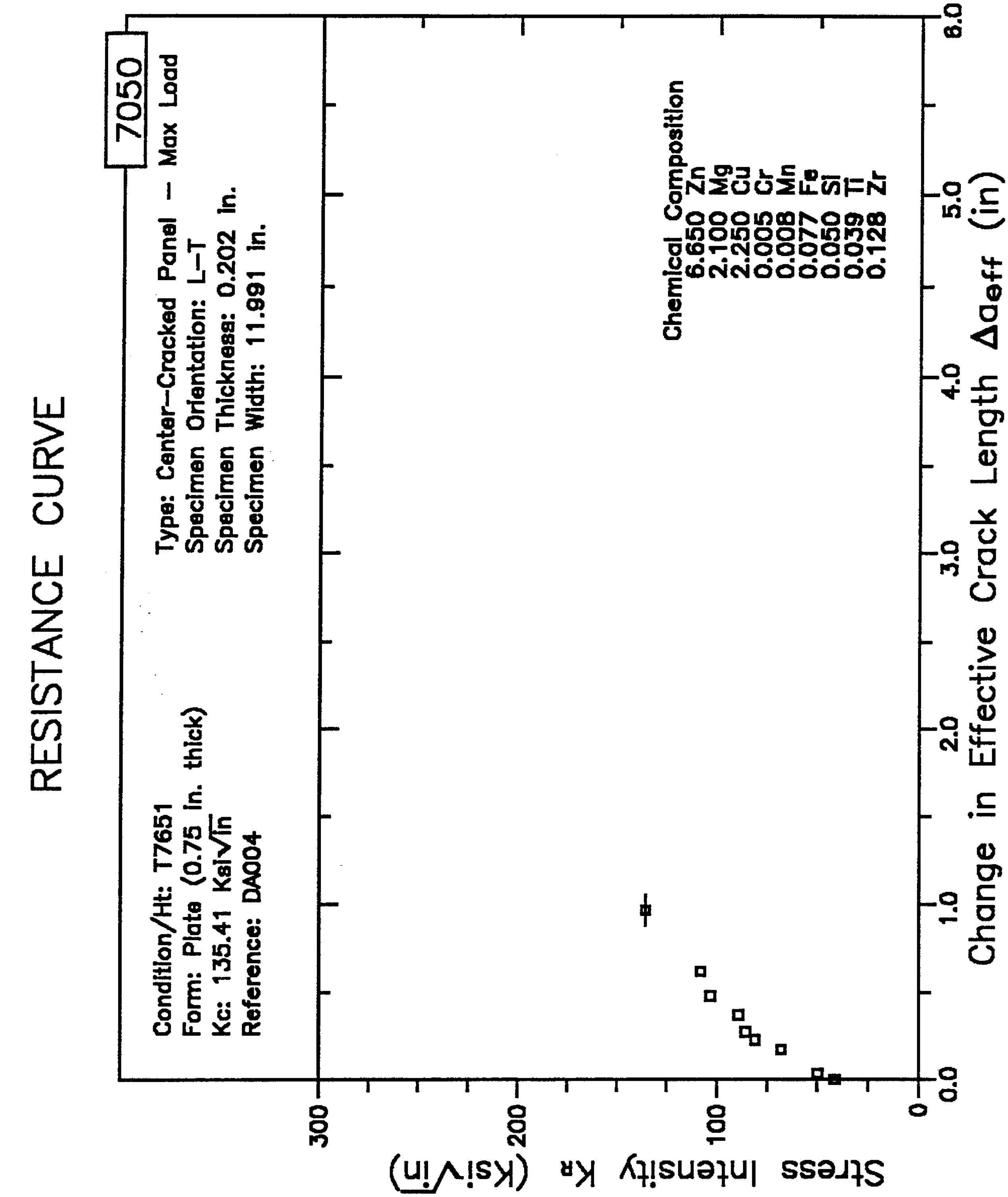


Figure 8.7.2.3.50



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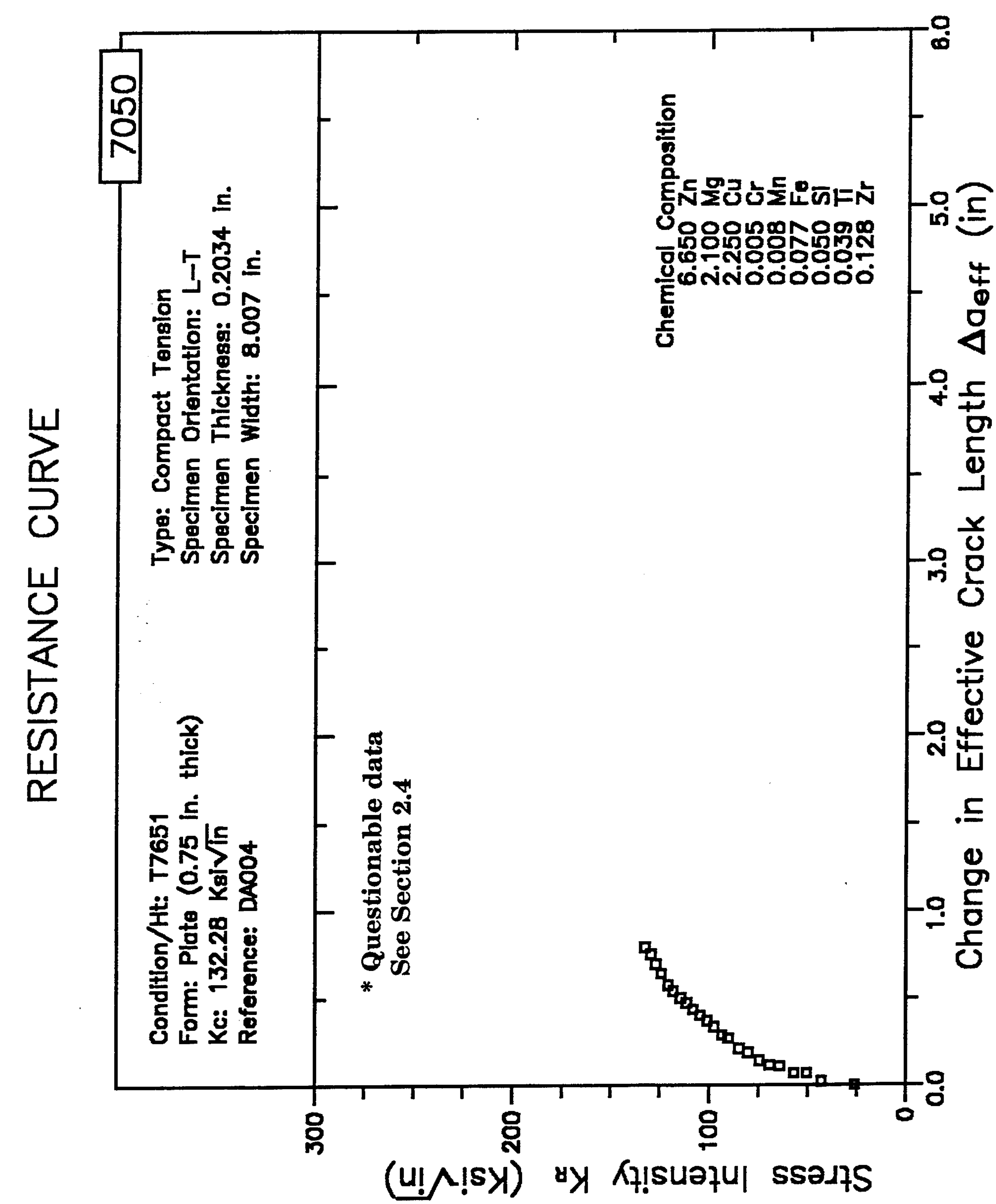

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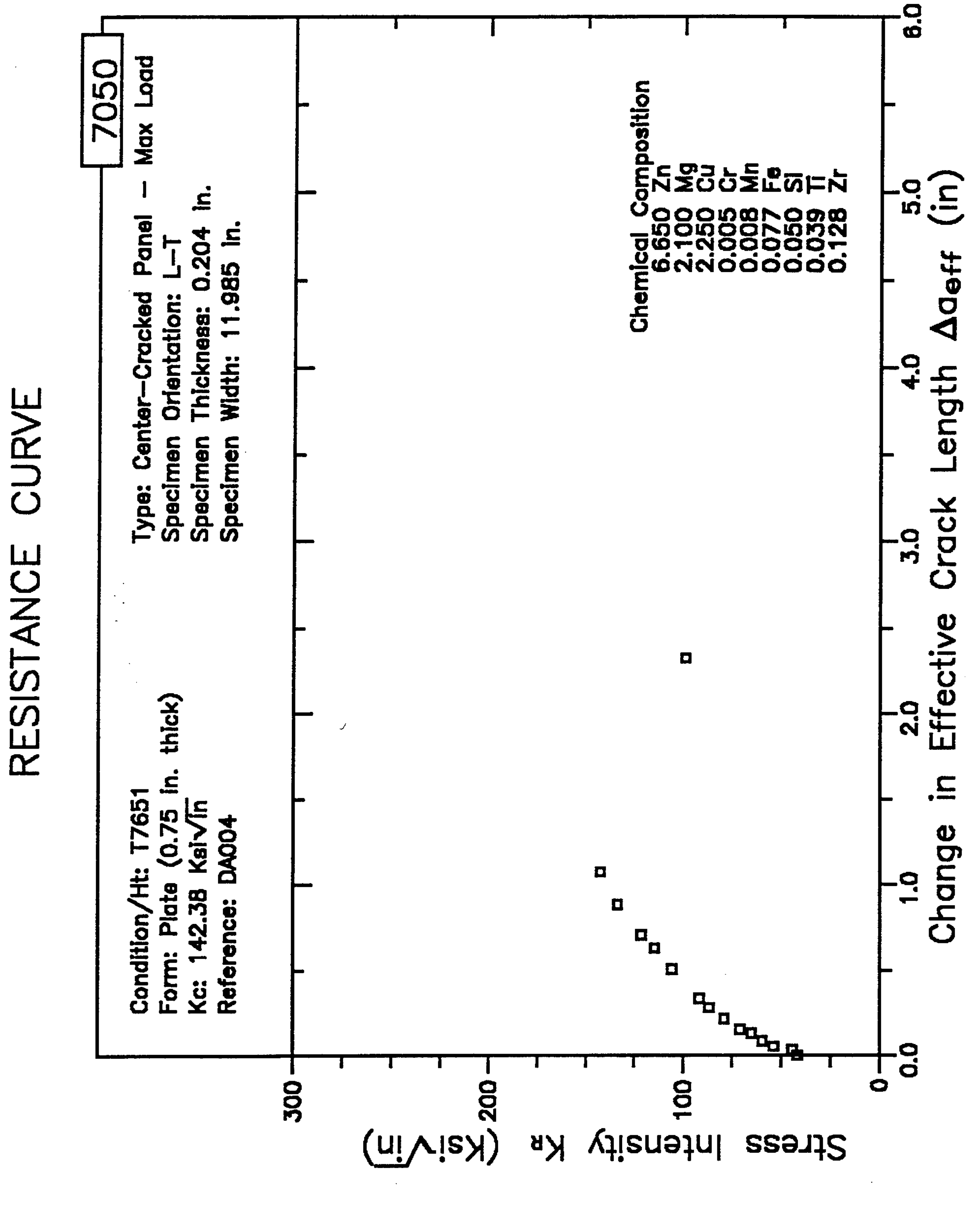

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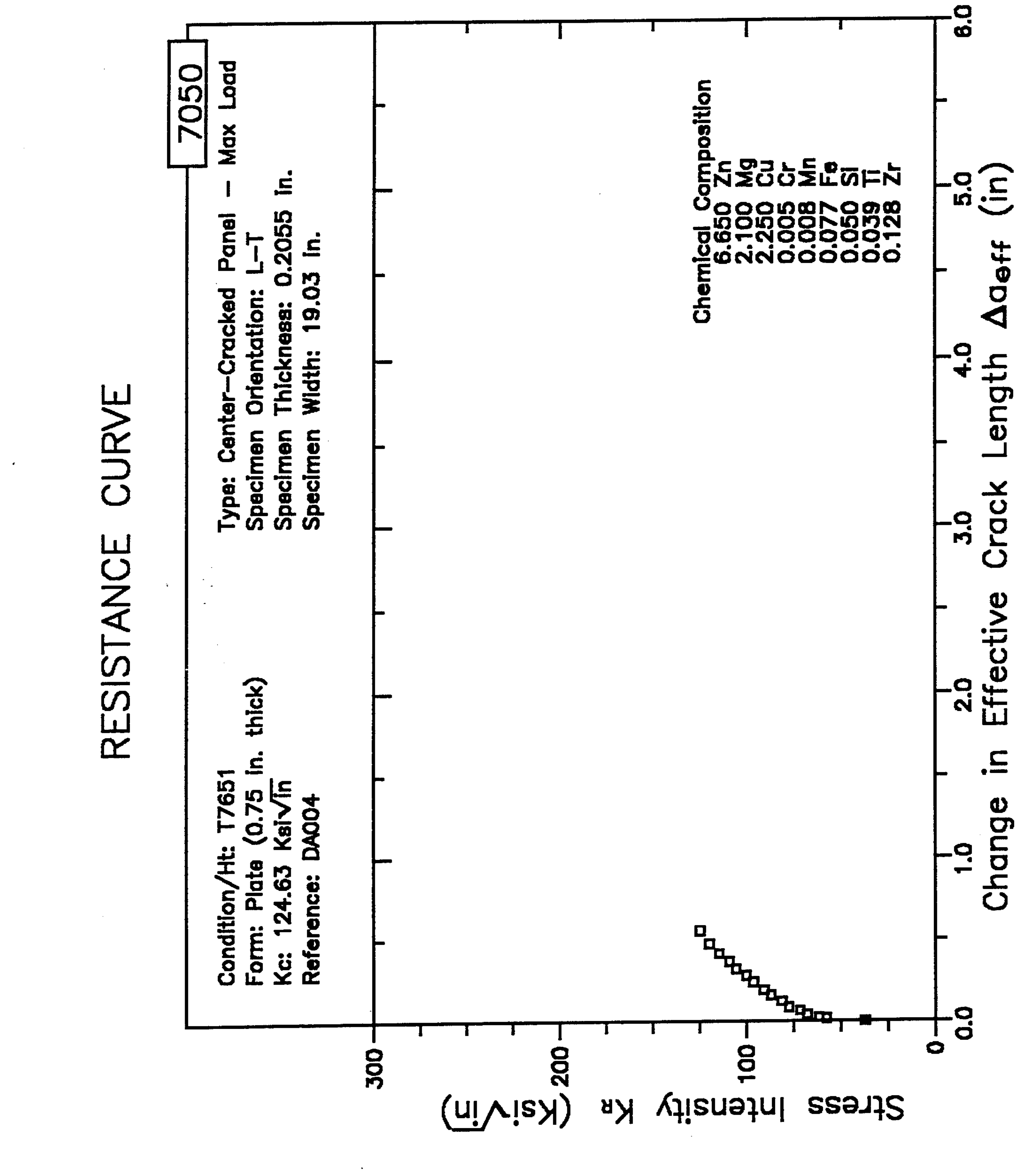


Figure 8.7.2.3.54

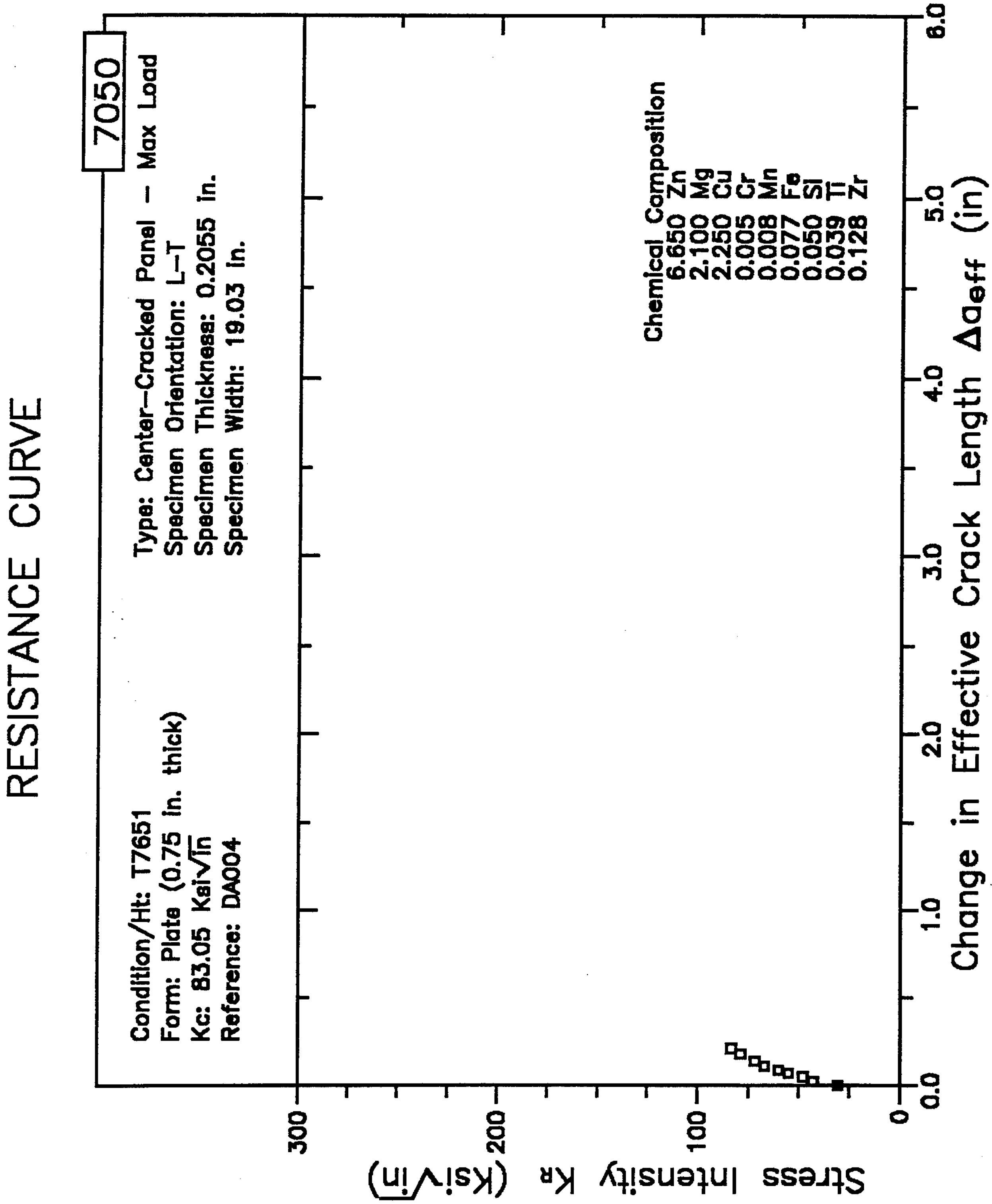


Figure 8.7.2.3.55

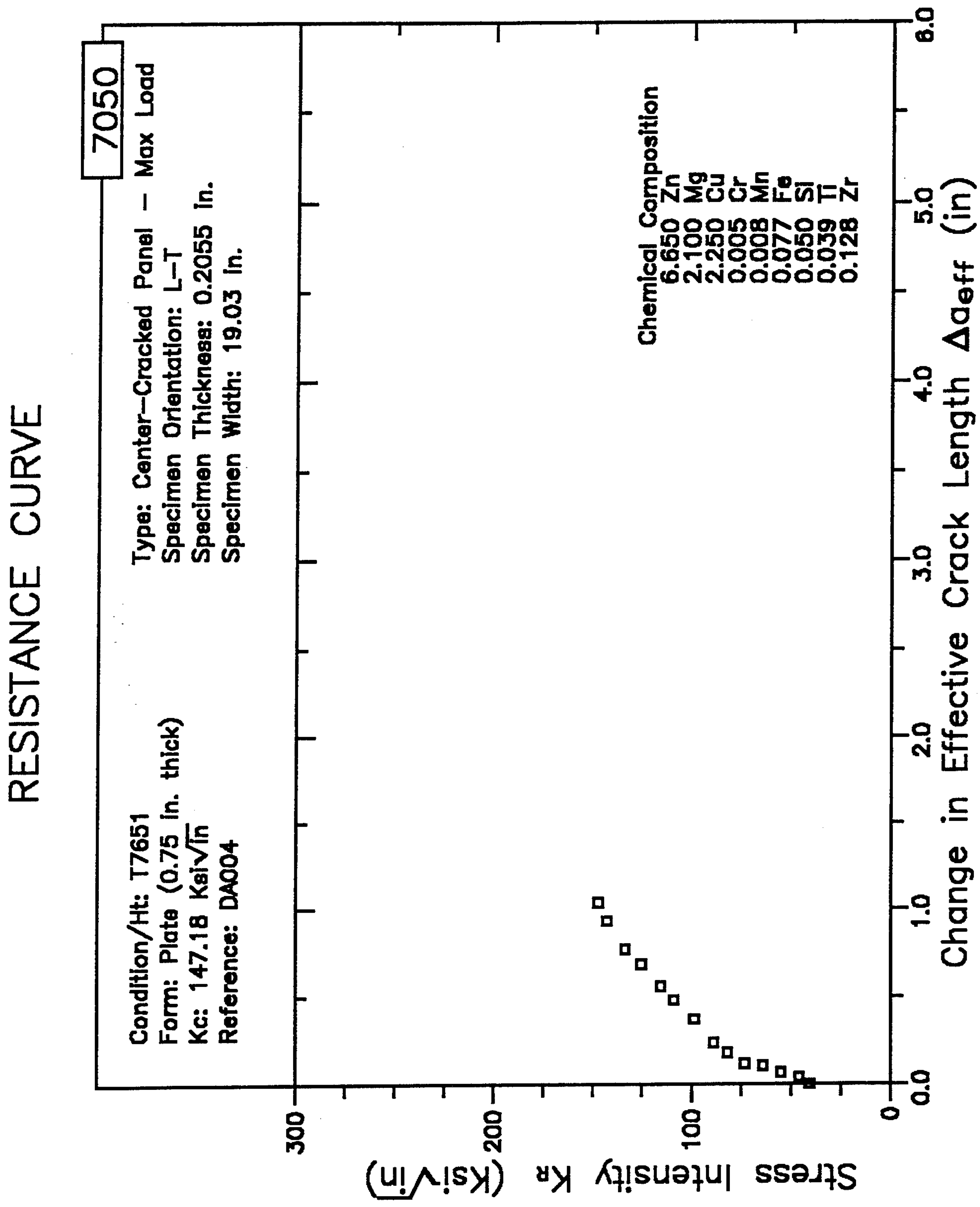


Figure 8.7.2.3.56

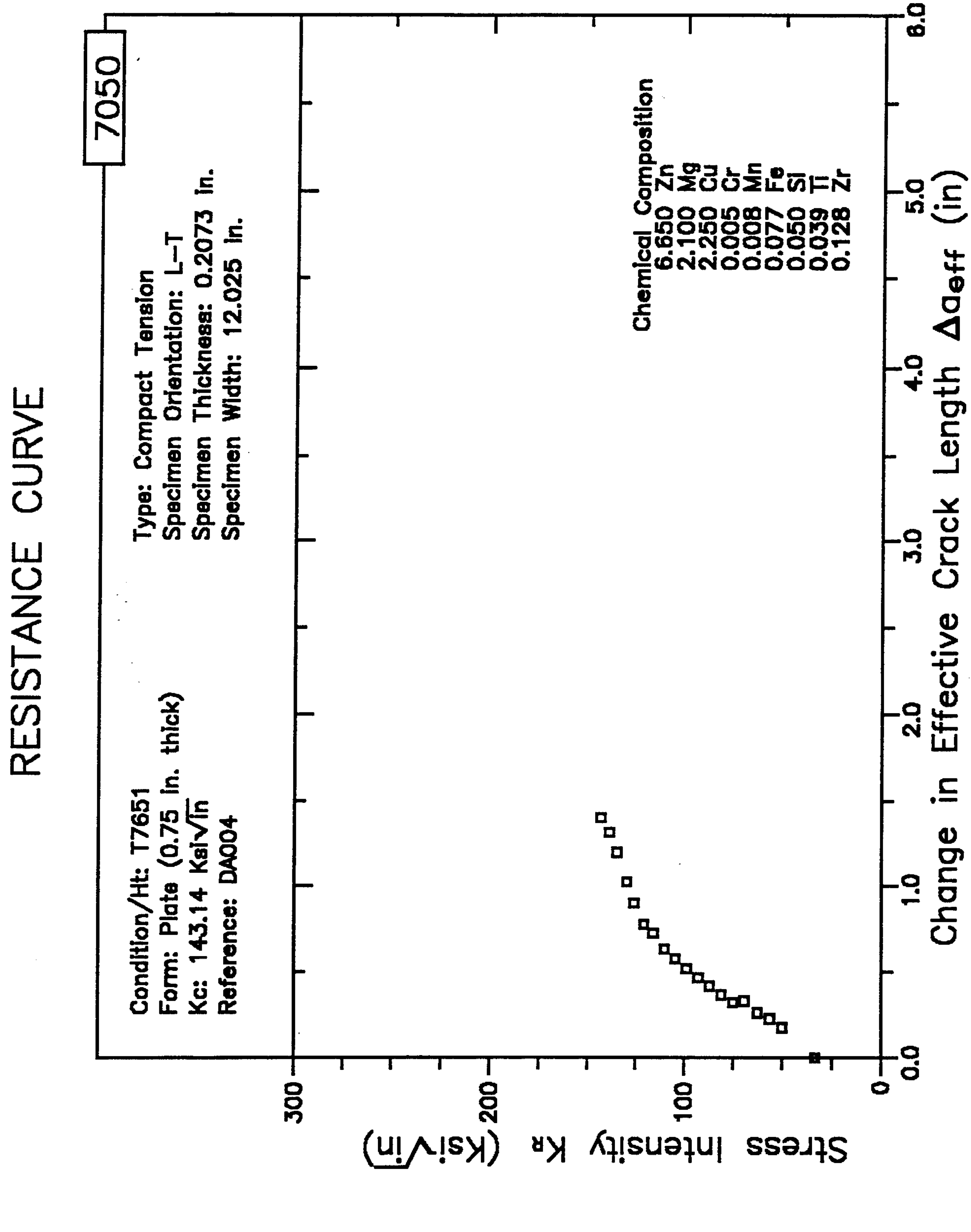


Figure 8.7.2.3.57

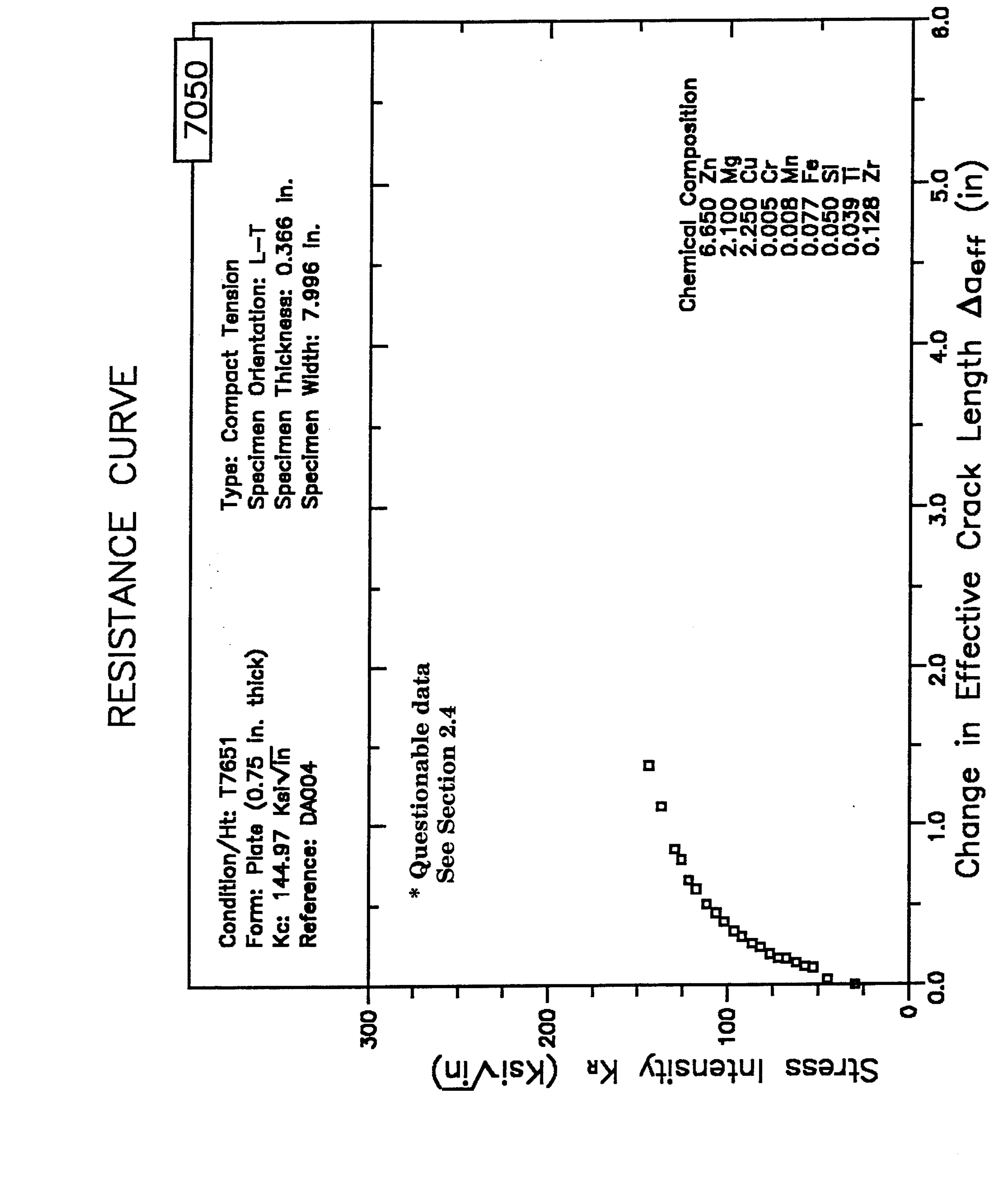


Figure 8.7.2.3.58

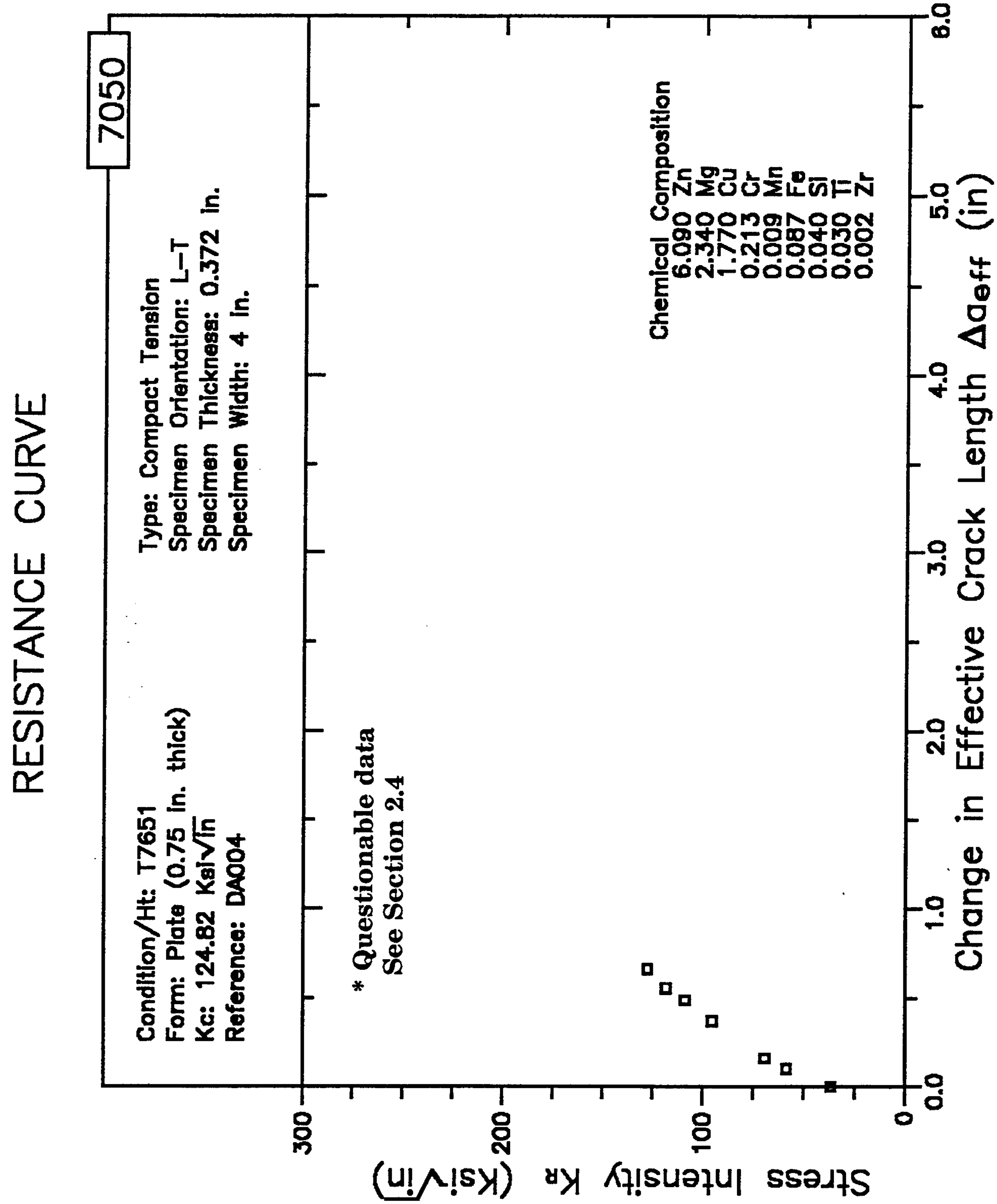


Figure 8.7.2.3.59

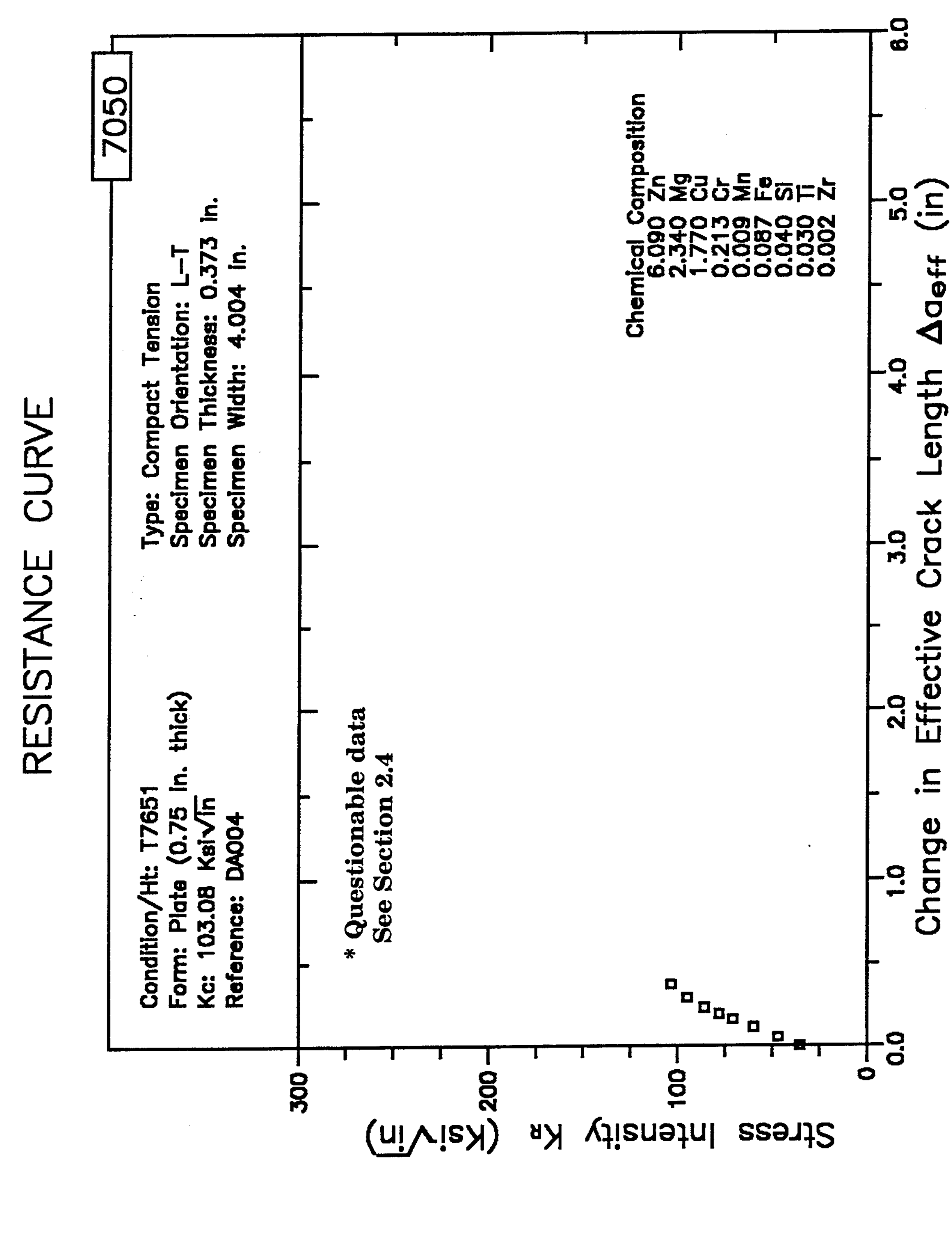


Figure 8.7.2.3.60

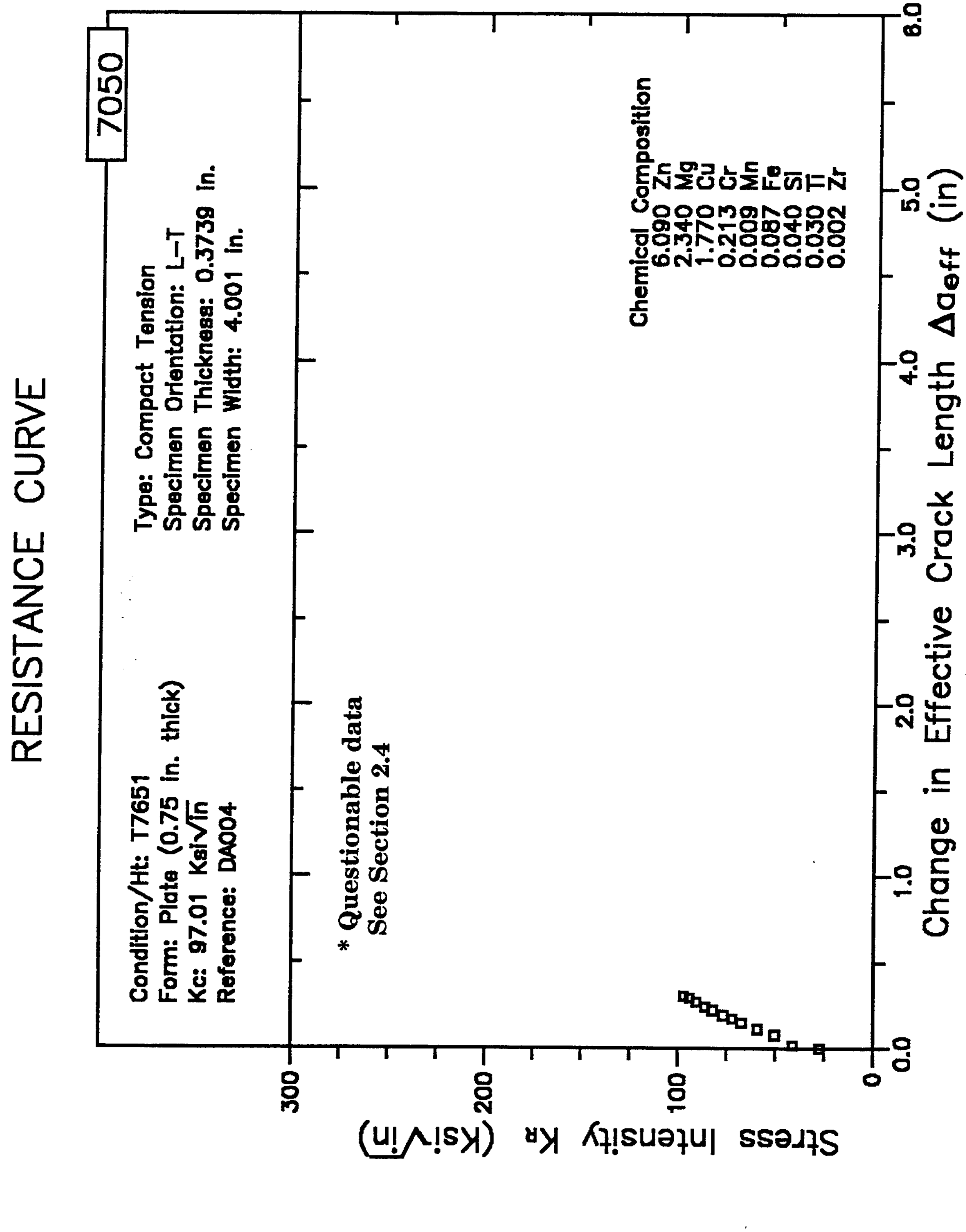


Figure 8.7.2.3.61

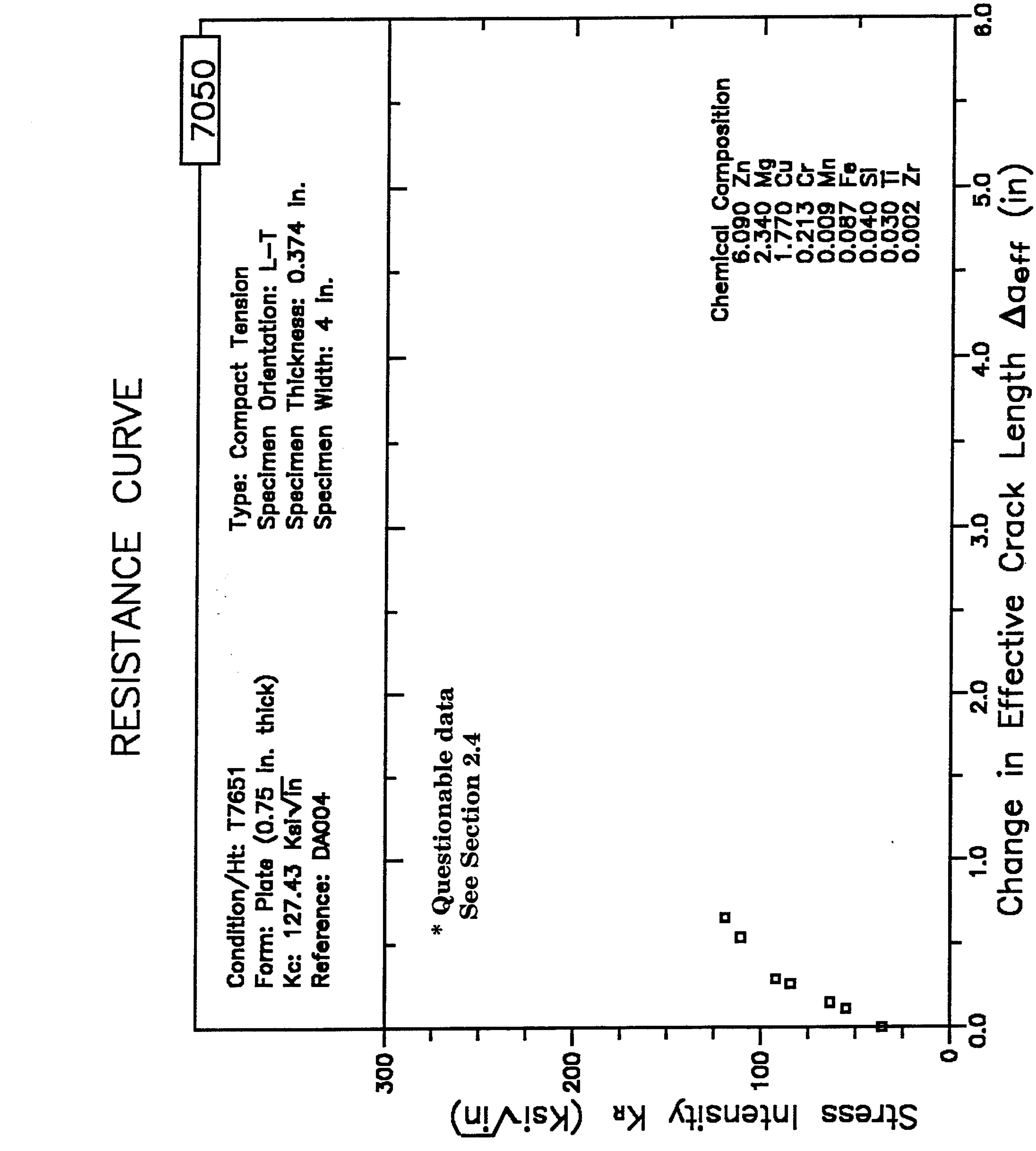


Figure 8.7.2.3.62

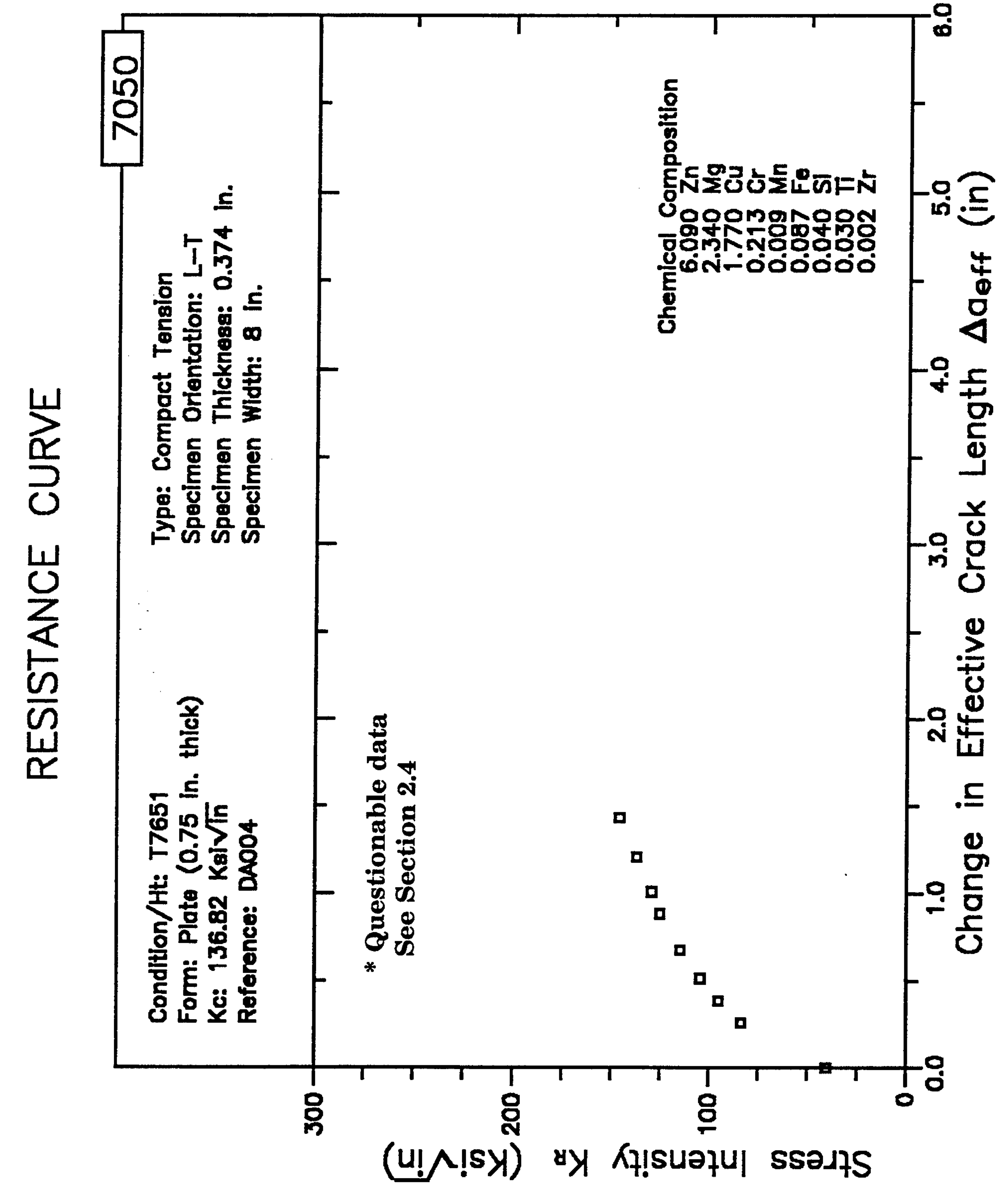


Figure 8.7.2.3.63

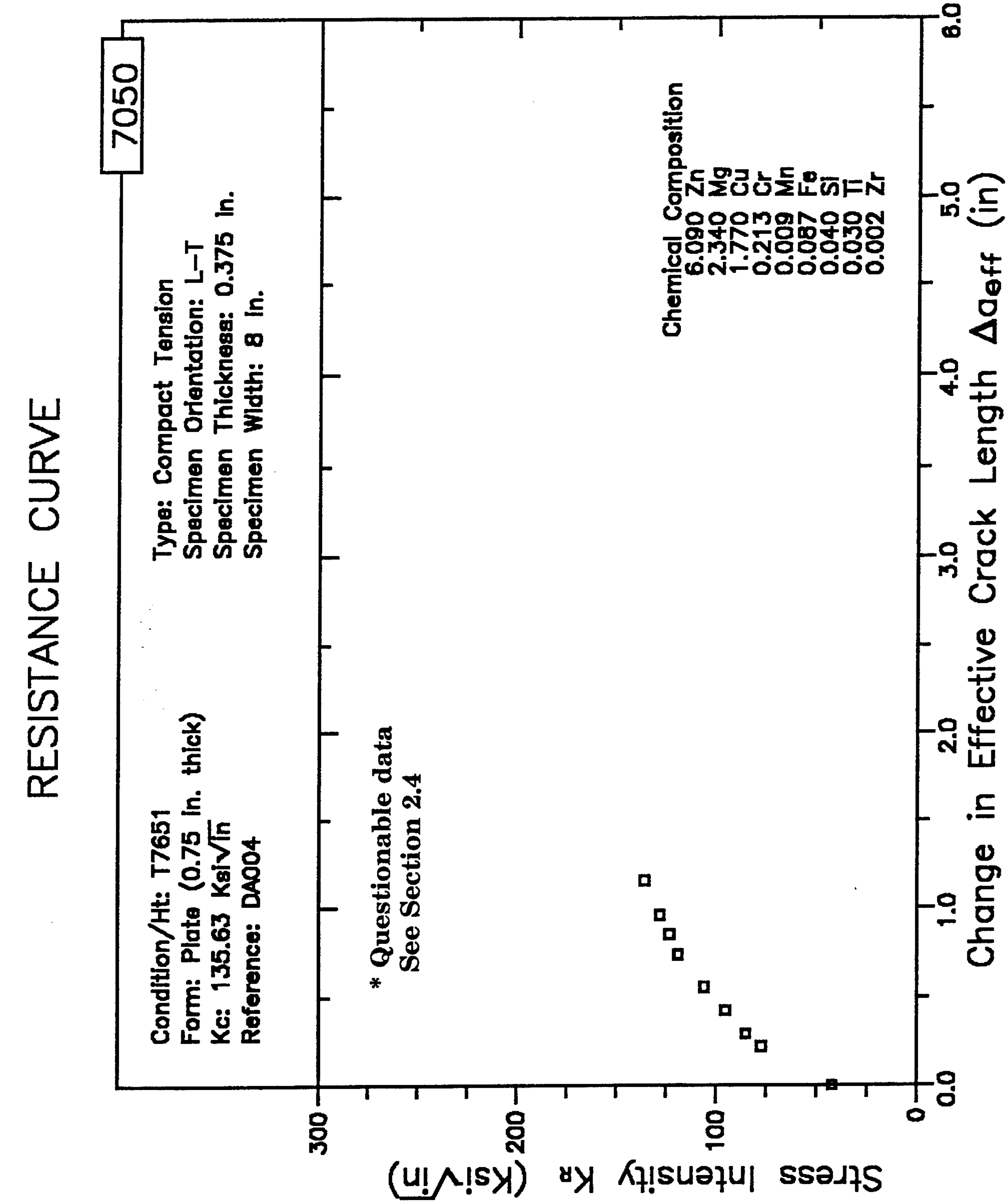


Figure 8.7.2.3.64

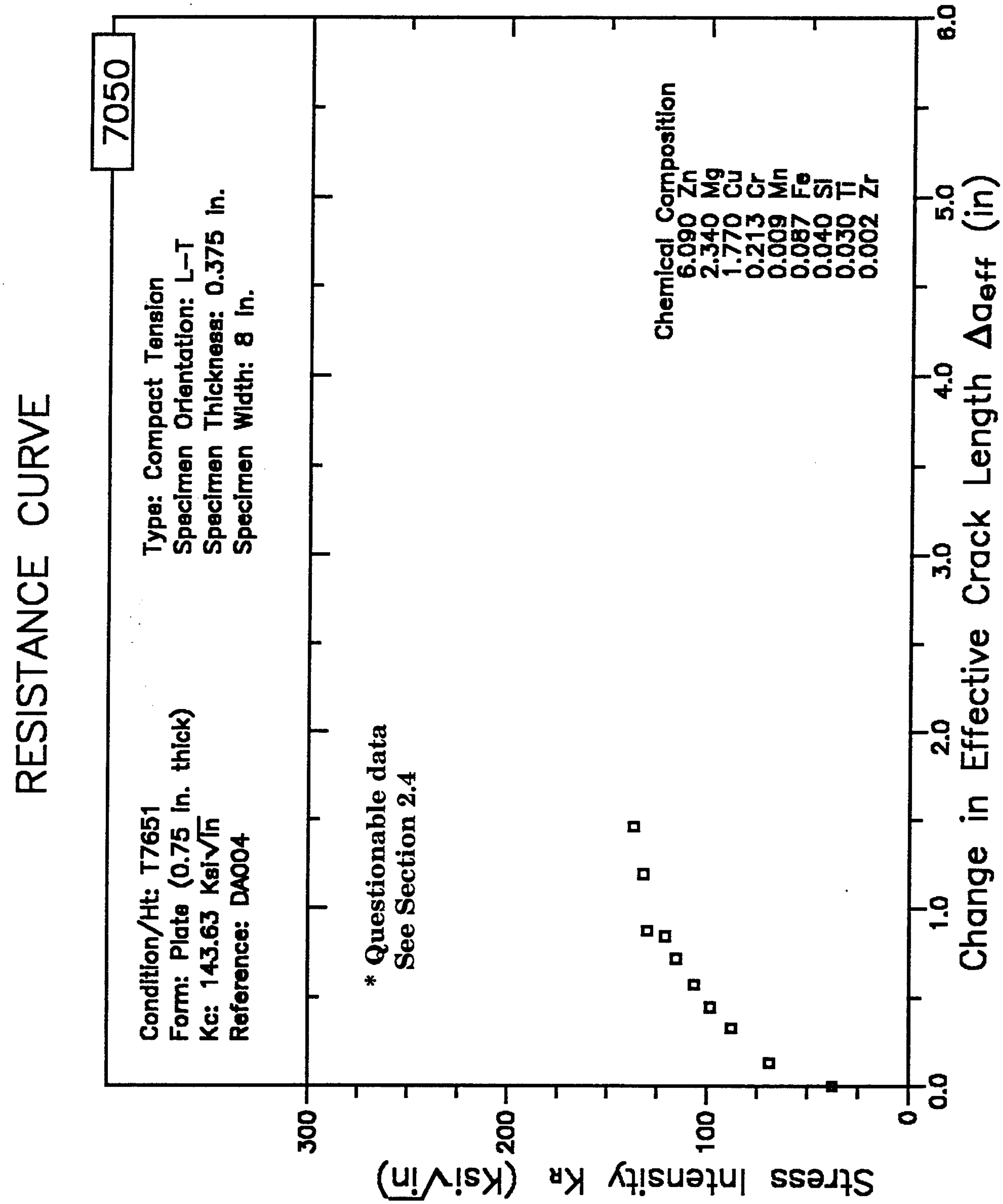


Figure 8.7.2.3.65

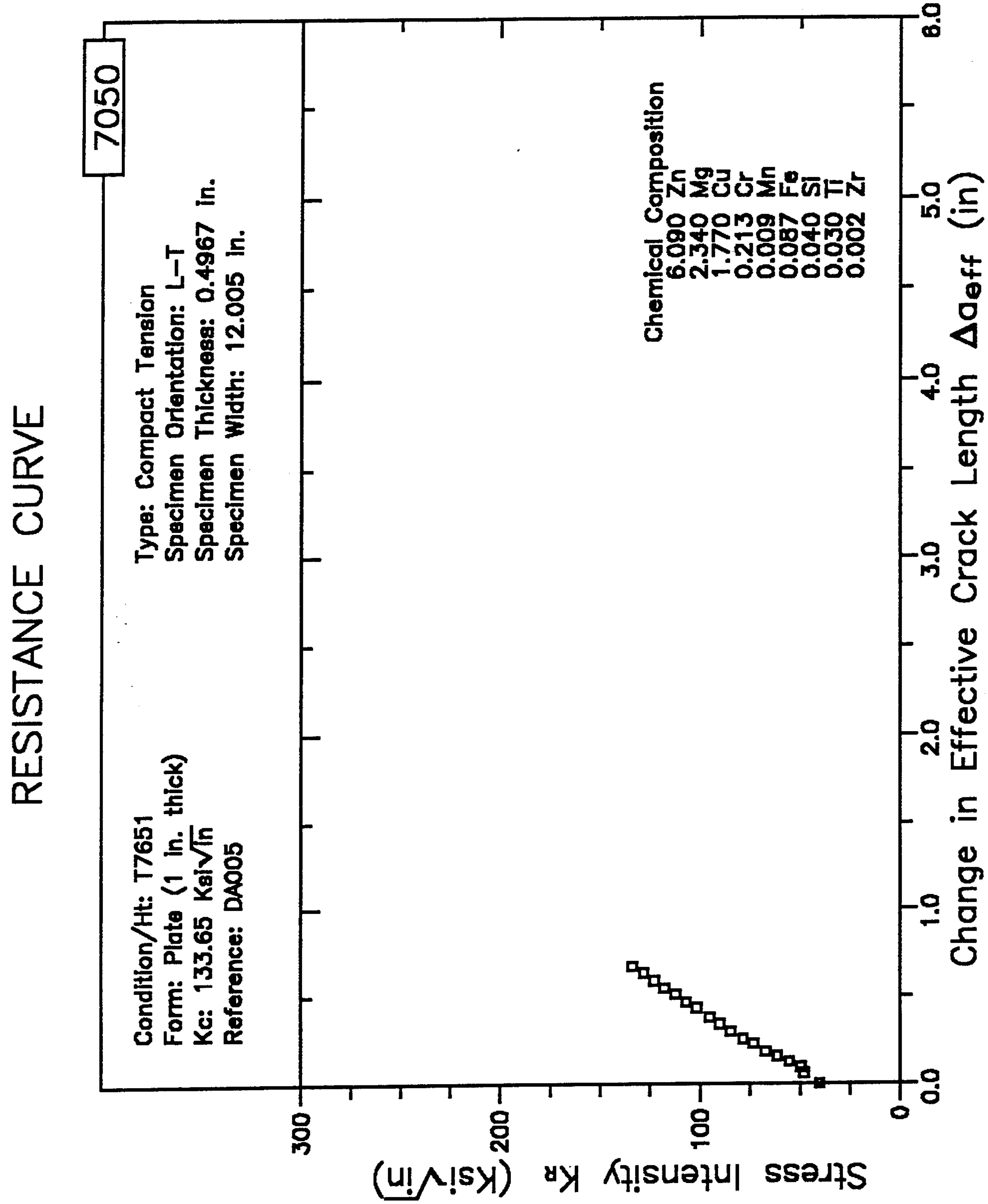


Figure 8.7.2.3.66

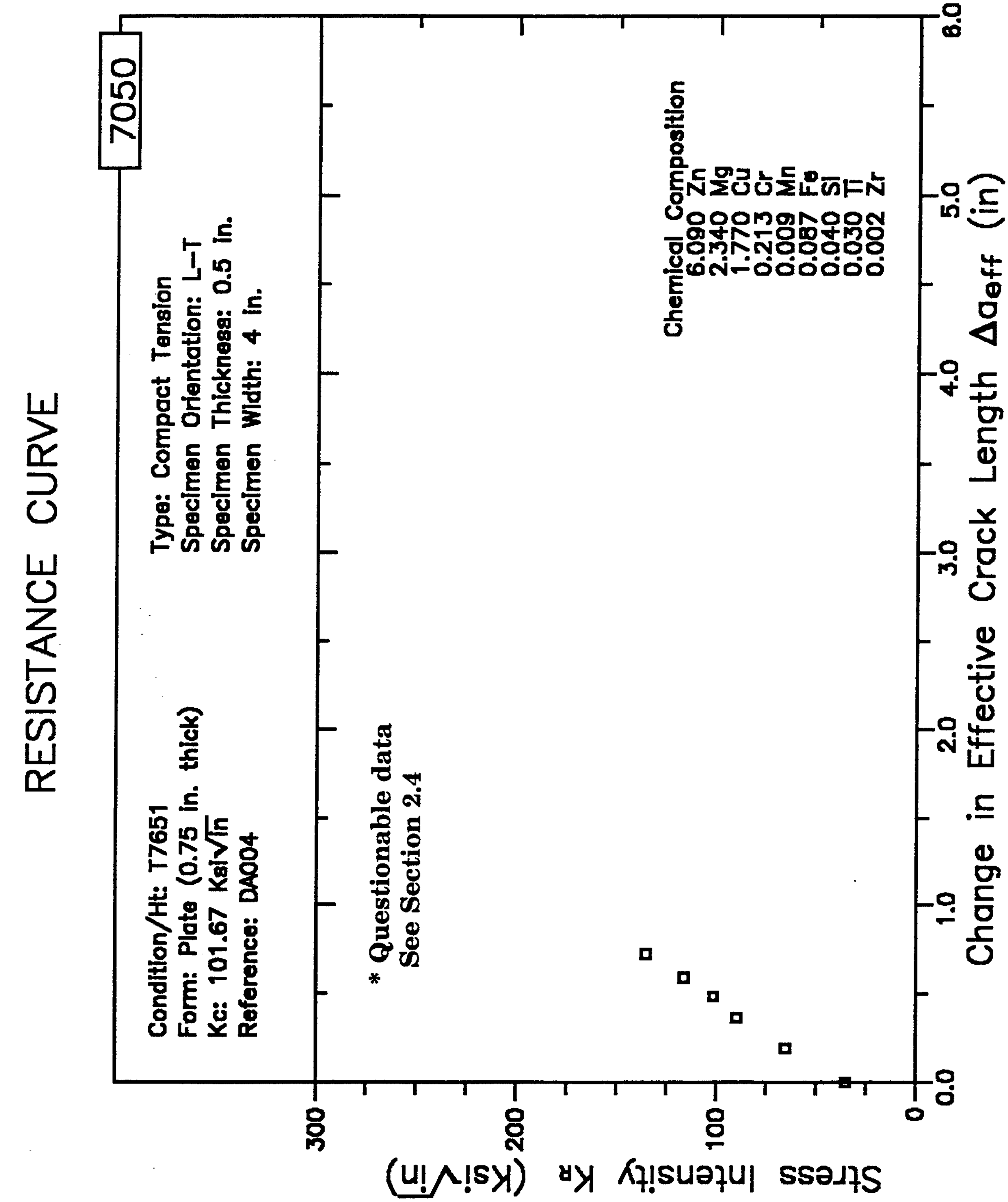


Figure 8.7.2.3.67

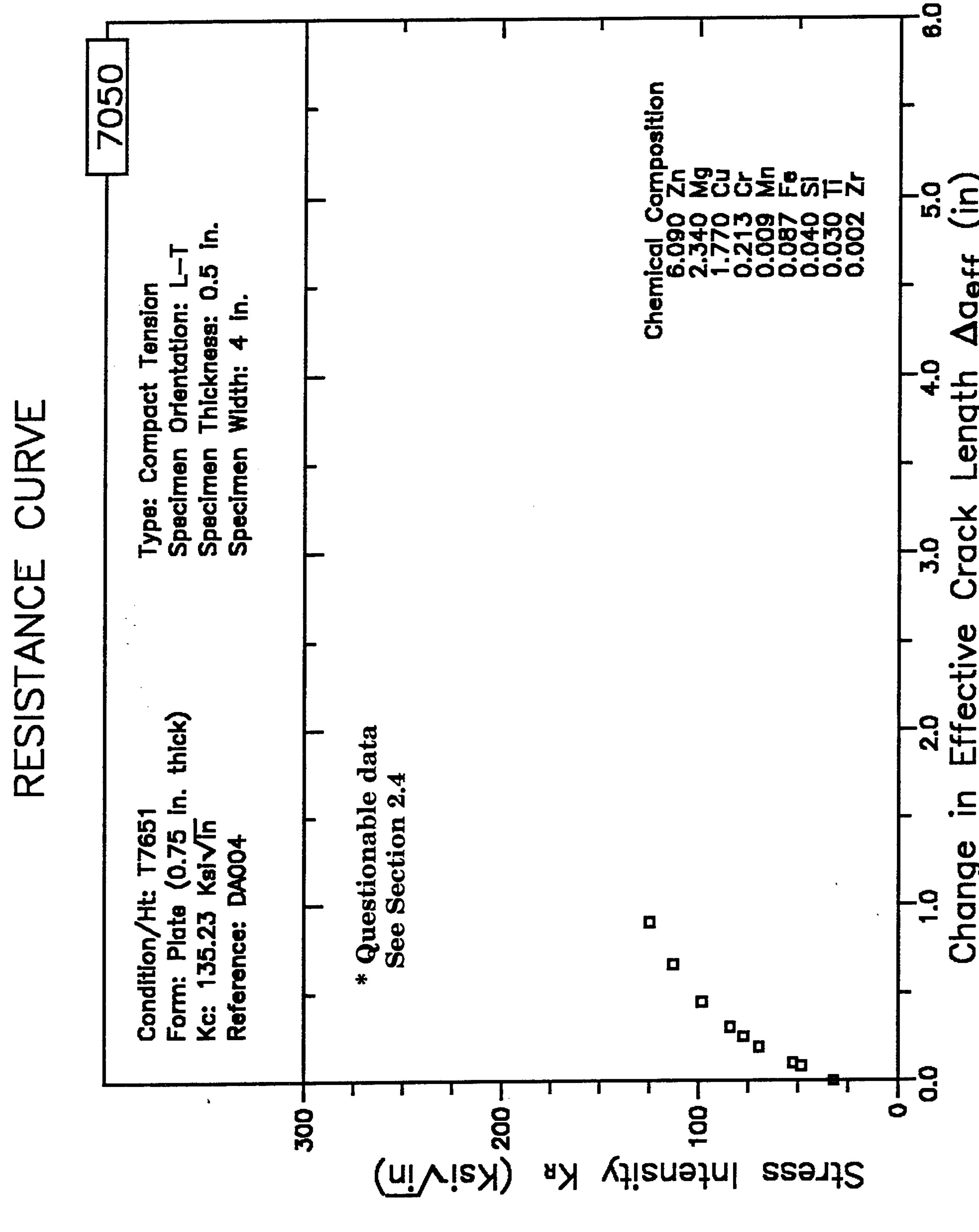


Figure 8.7.2.3.68

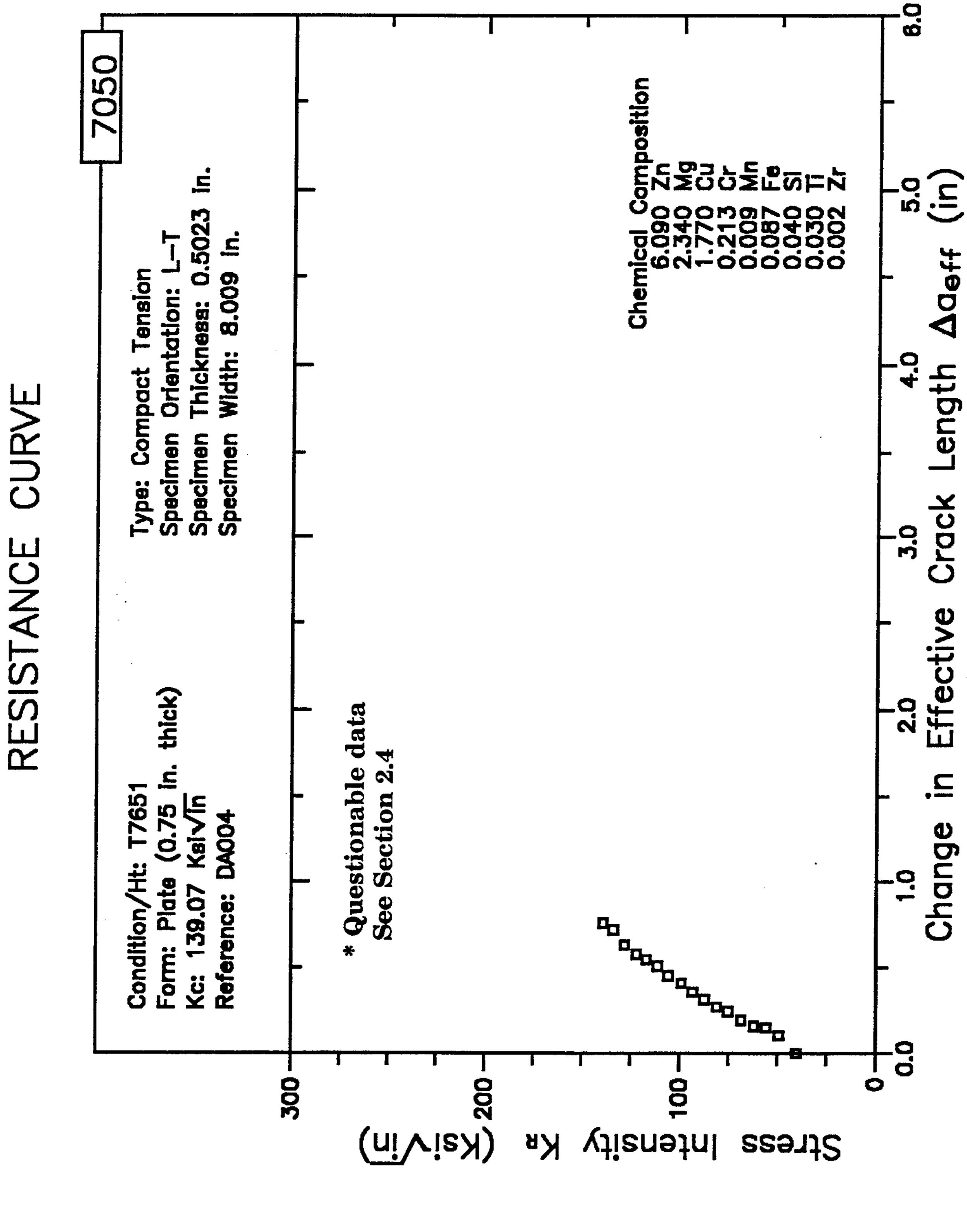


Figure 8.7.2.3.69

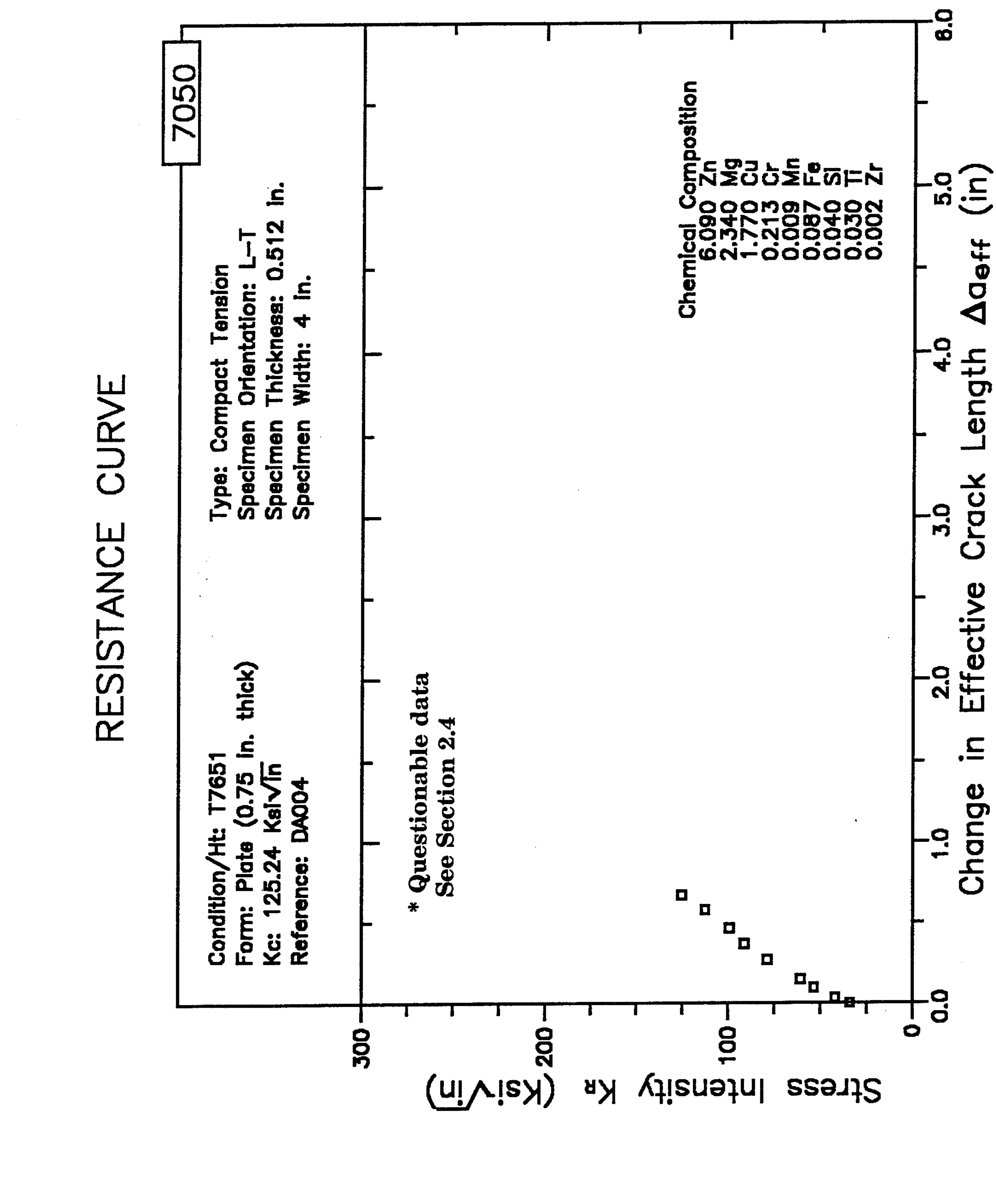


Figure 8.7.2.3.70

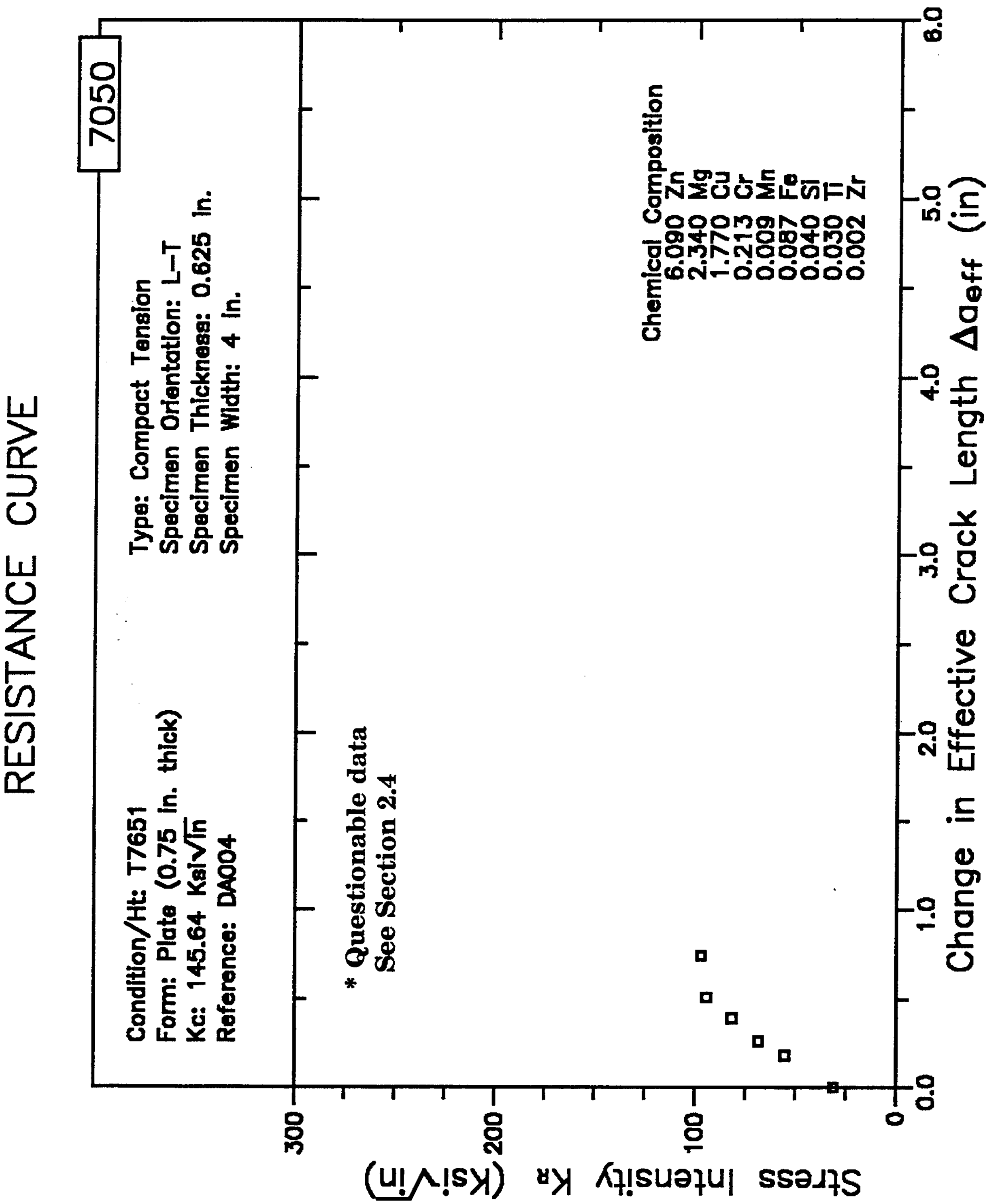


Figure 8.7.2.3.71

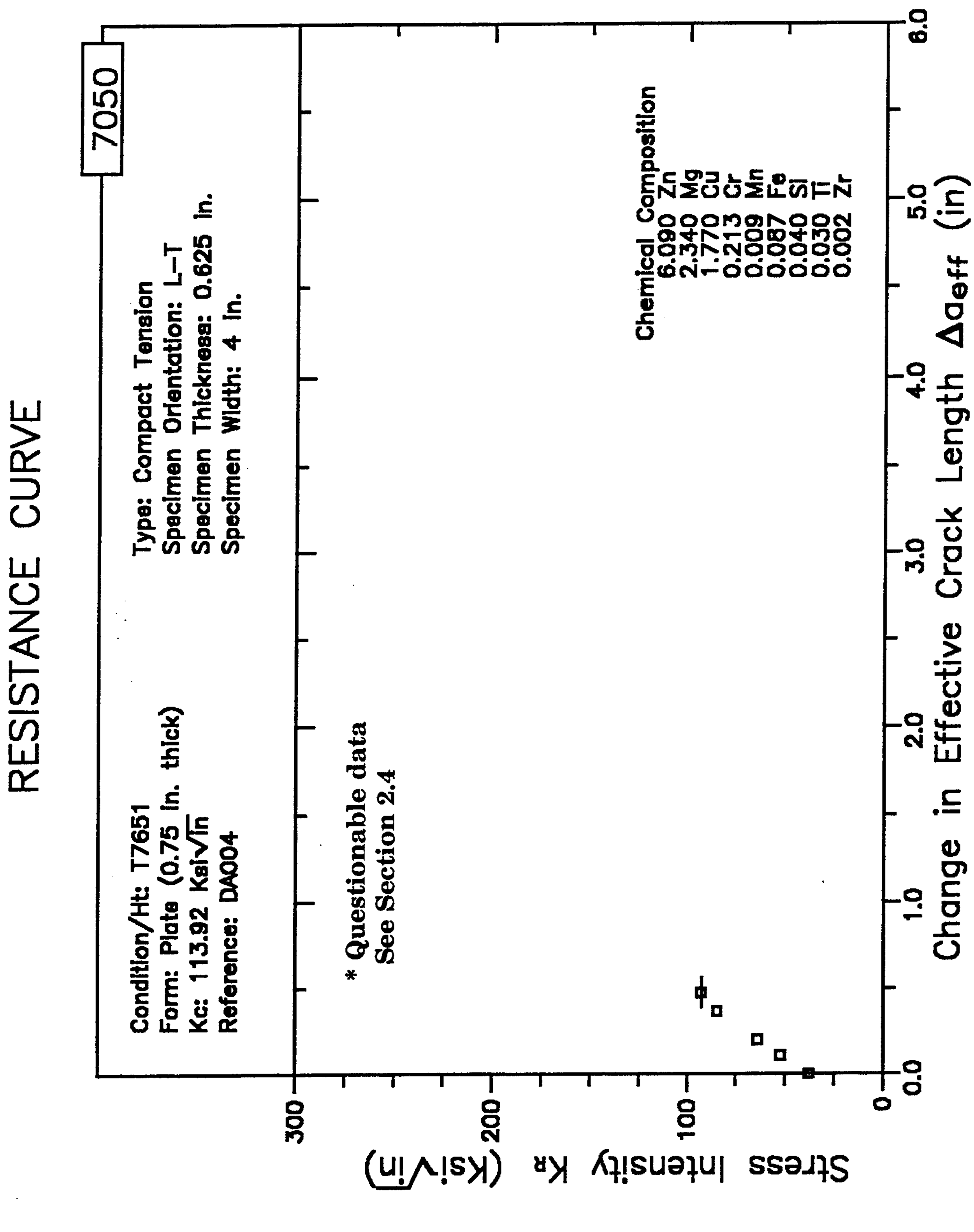


Figure 8.7.2.3.72

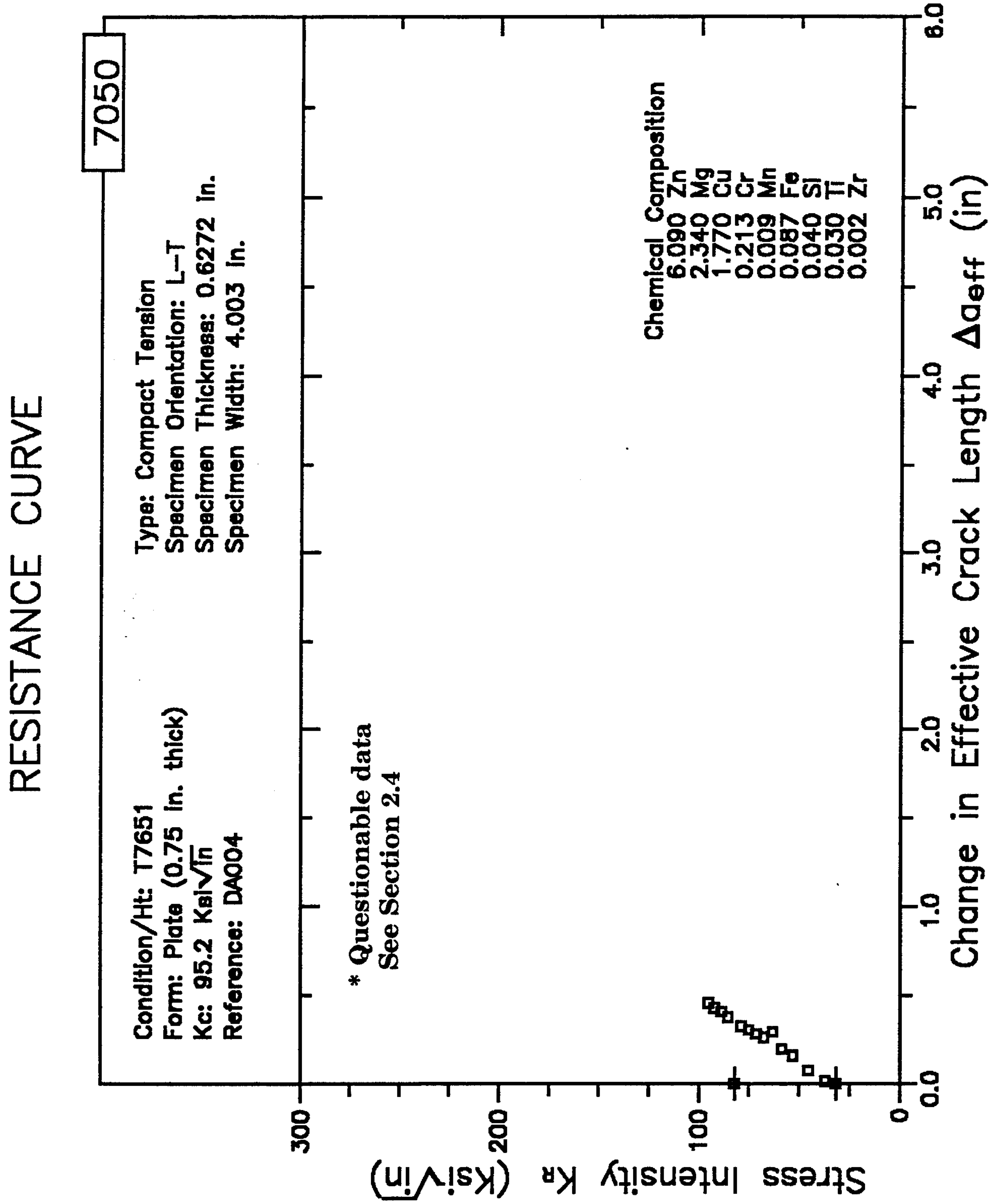


Figure 8.7.2.3.73

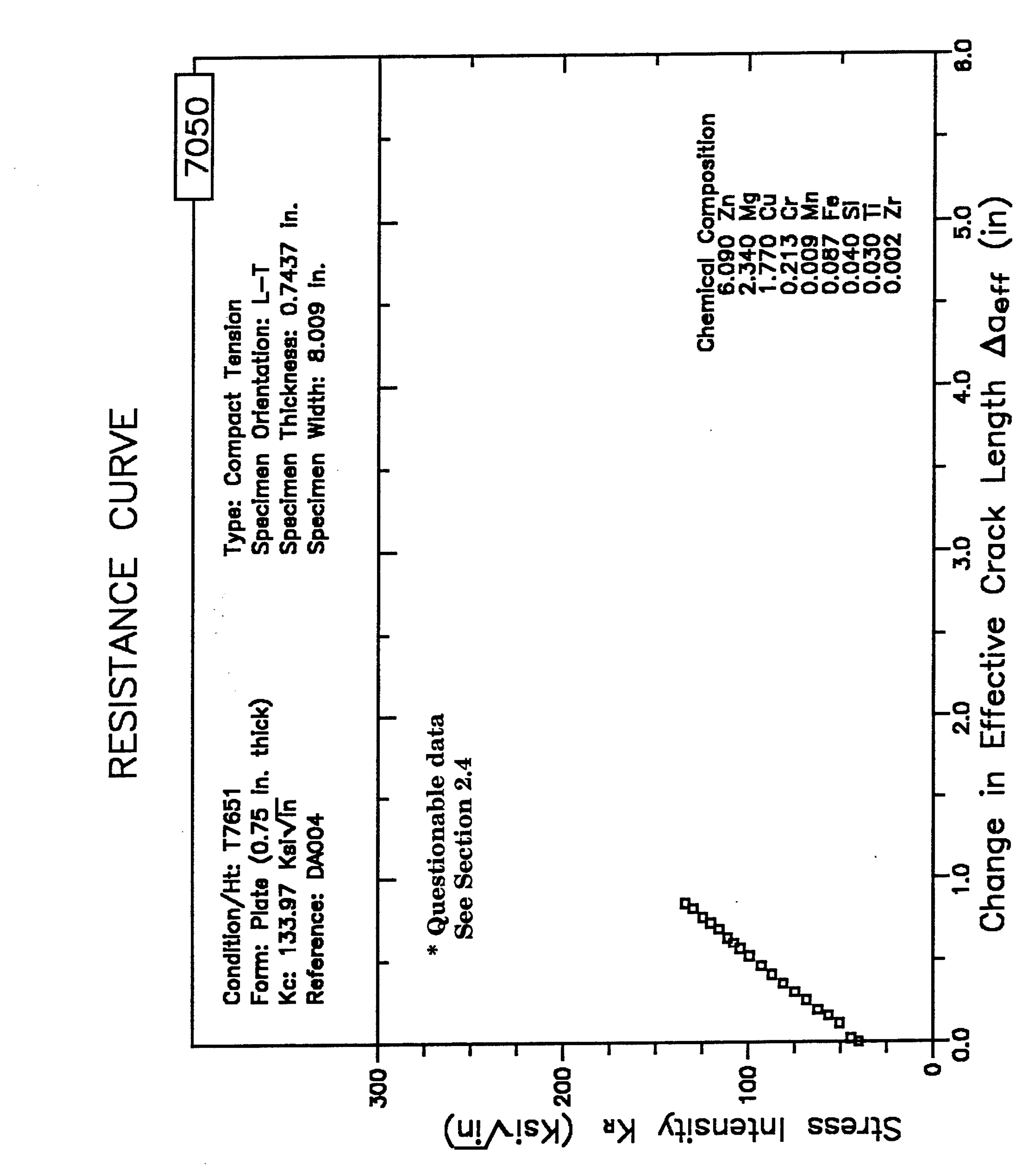


Figure 8.7.2.3.74

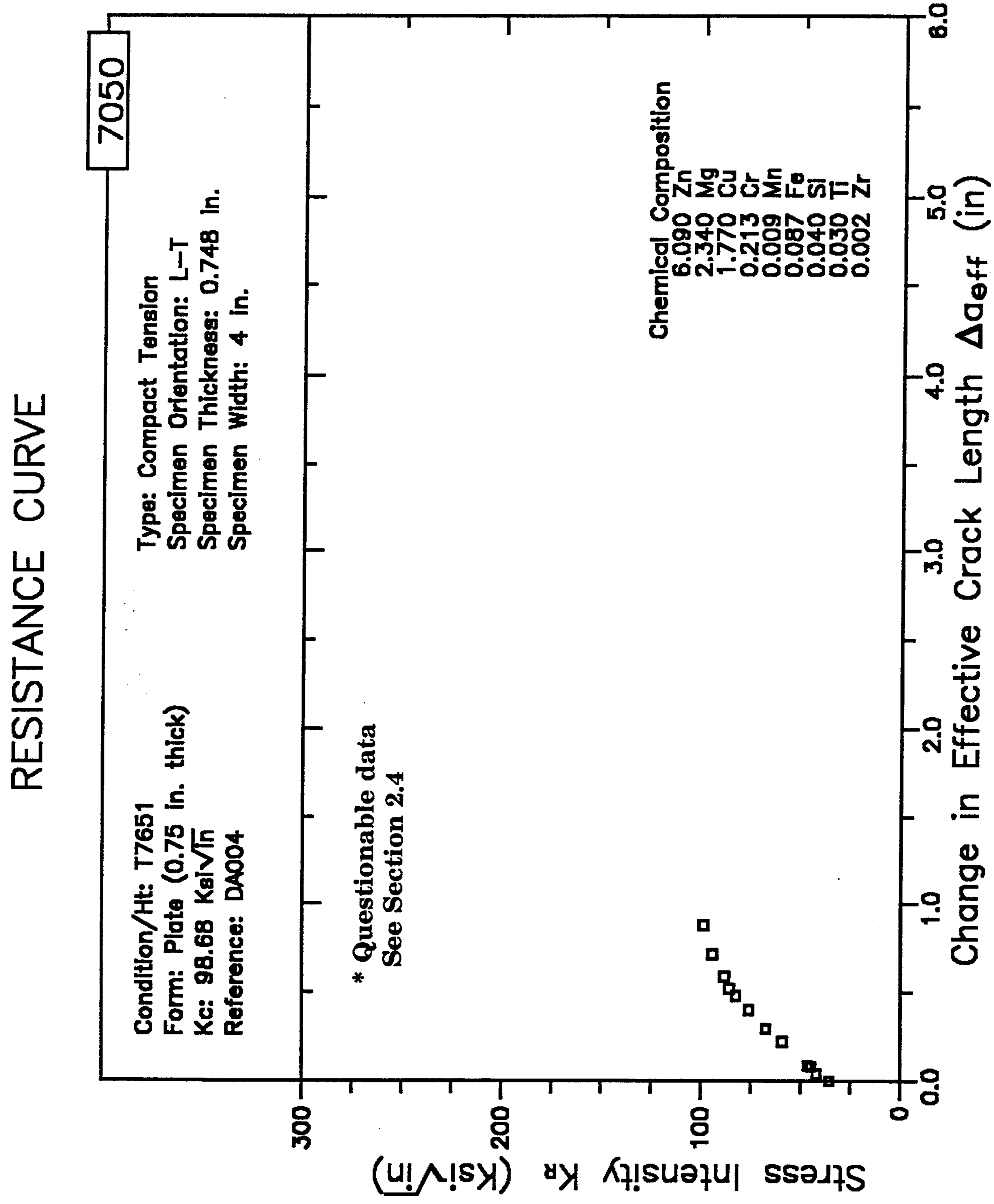


Figure 8.7.2.3.75

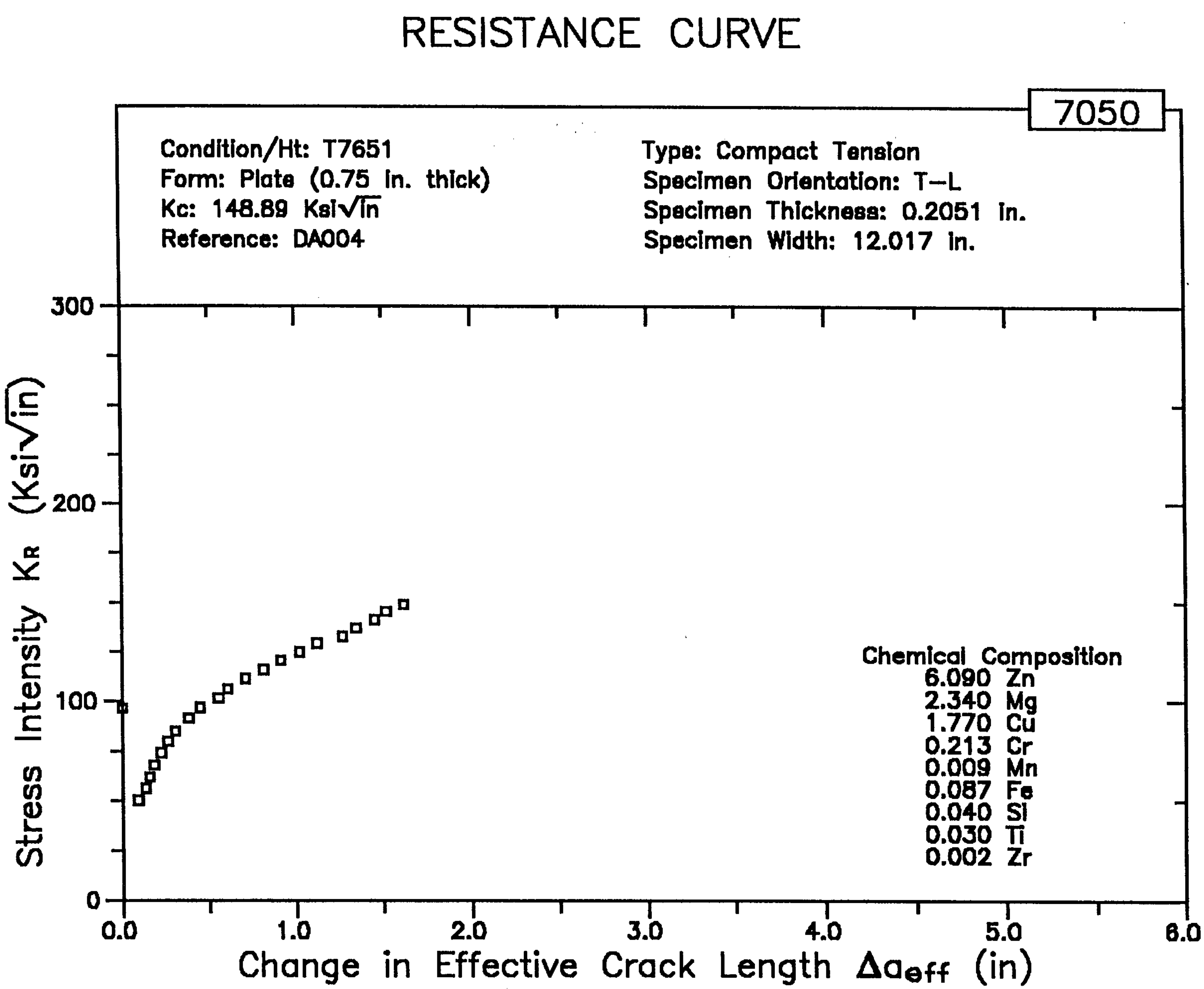


Figure 8.7.2.3.76

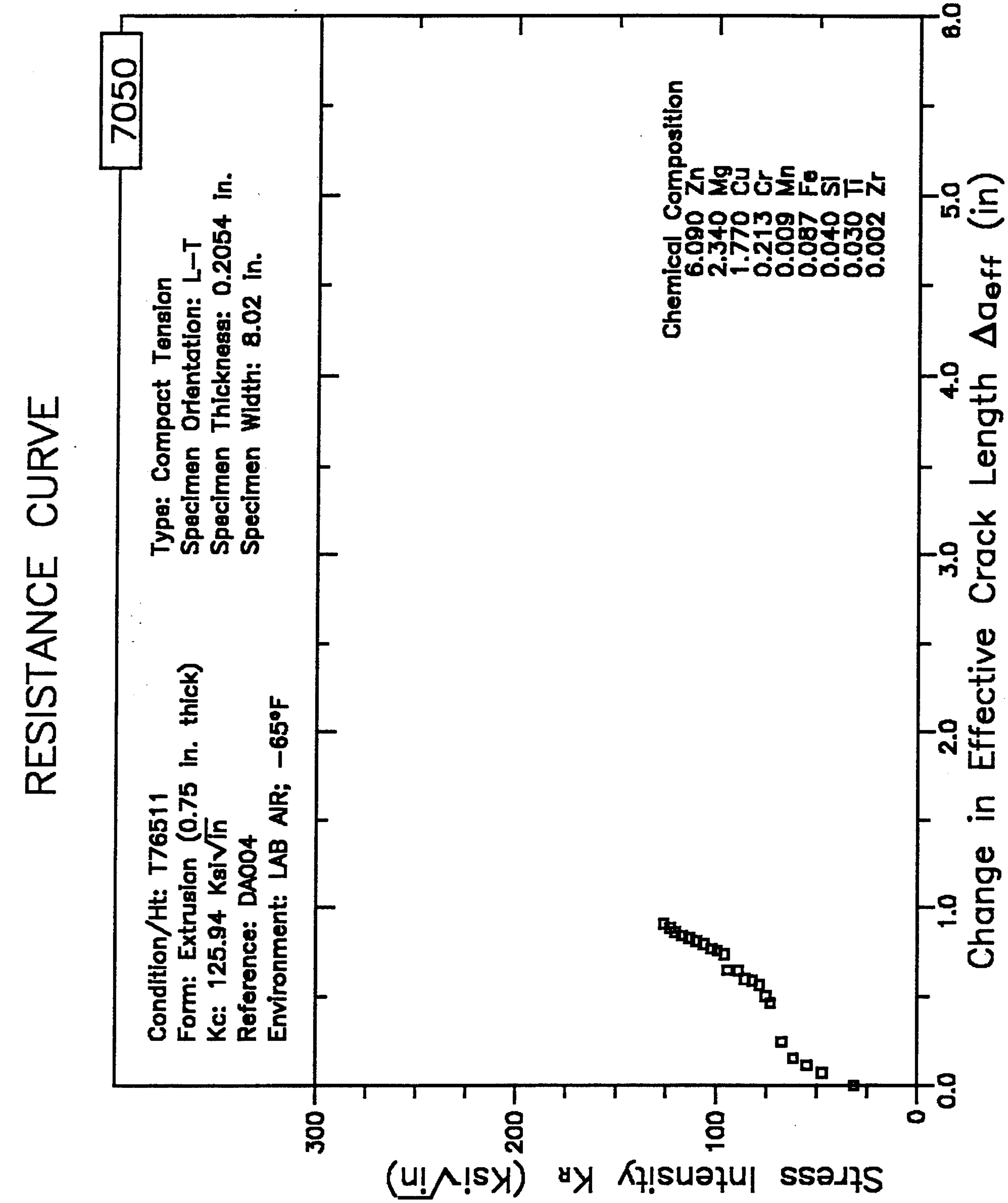


Figure 8.7.2.3.77

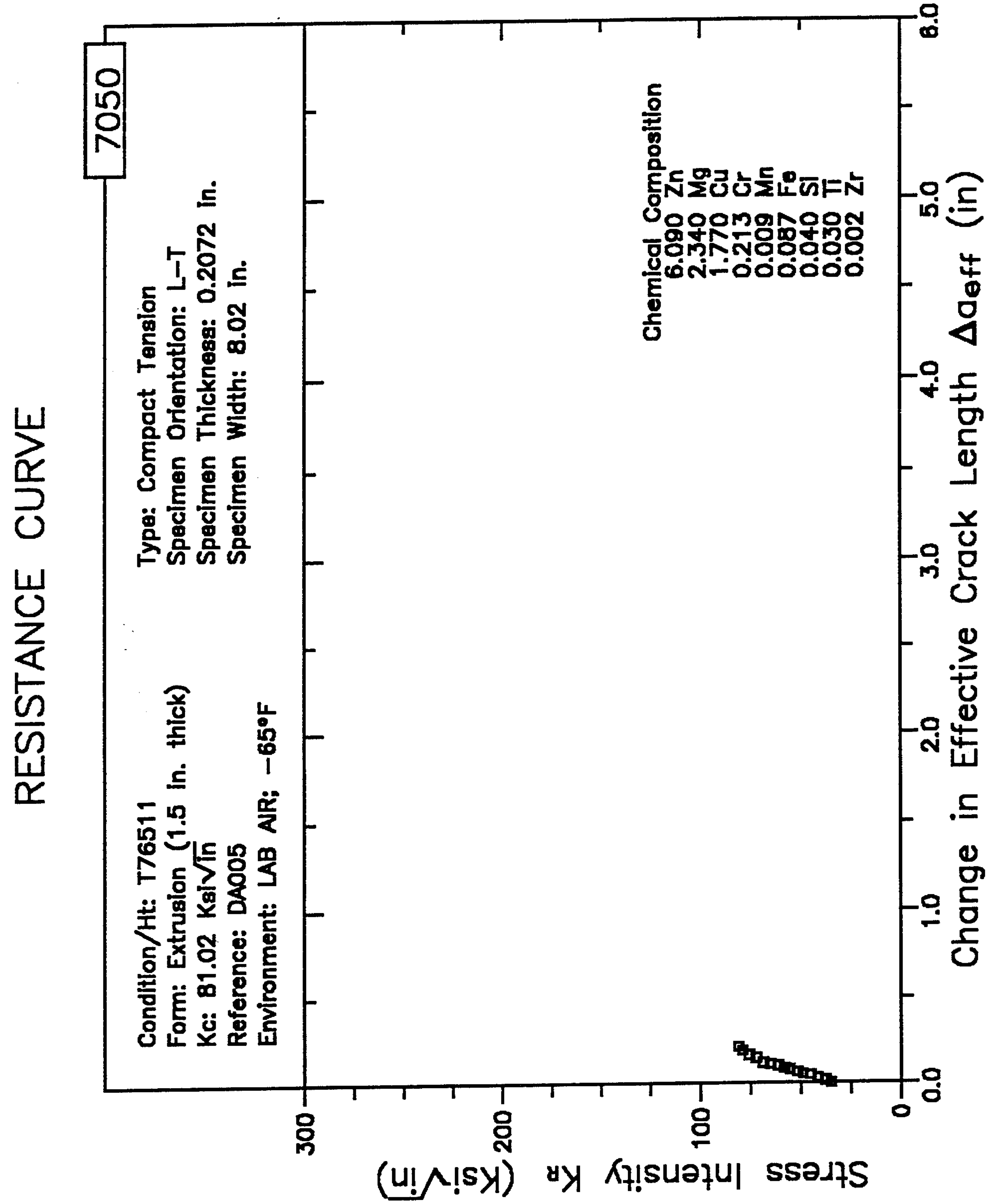


Figure 8.7.2.3.78

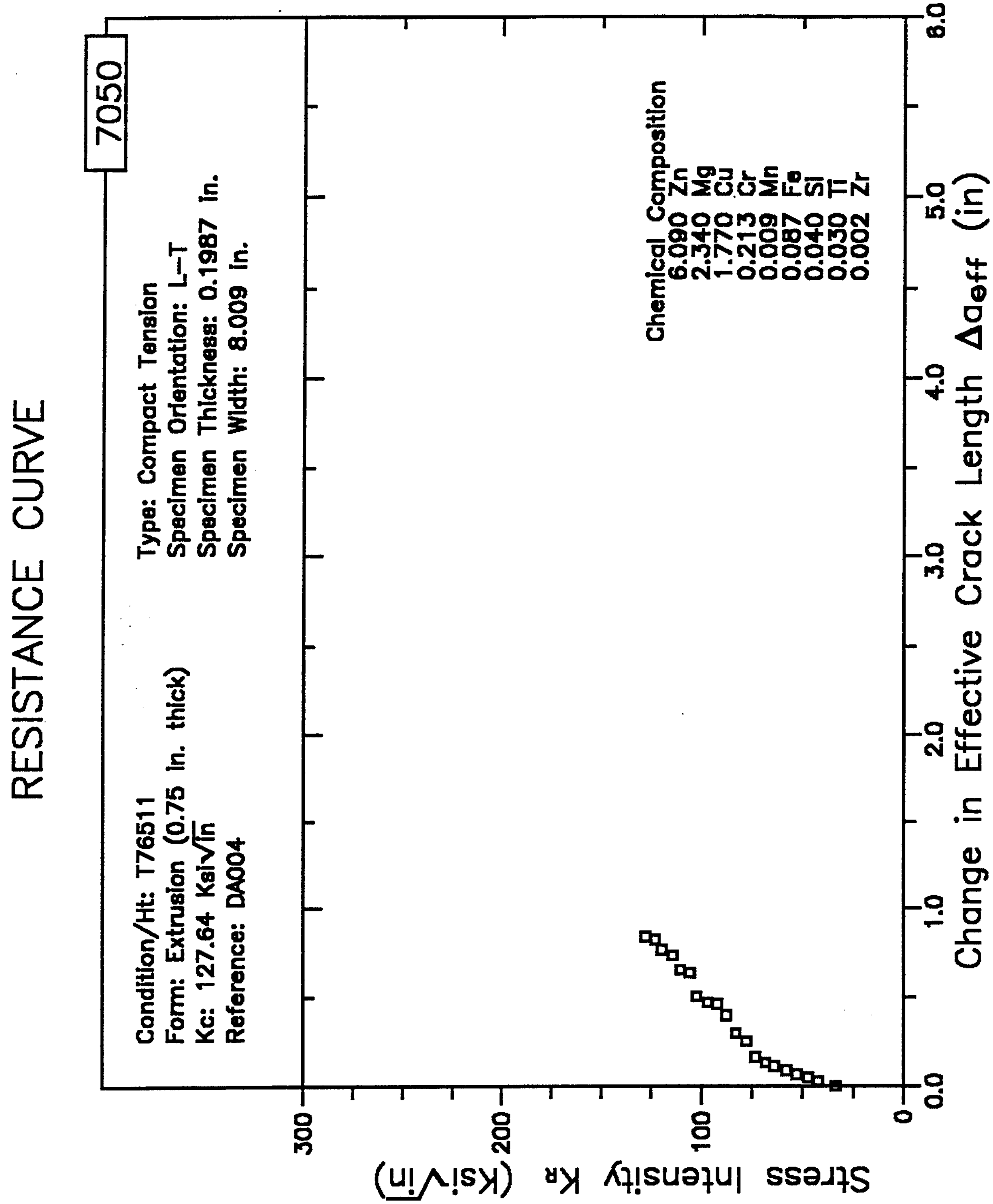


Figure 8.7.2.3.79

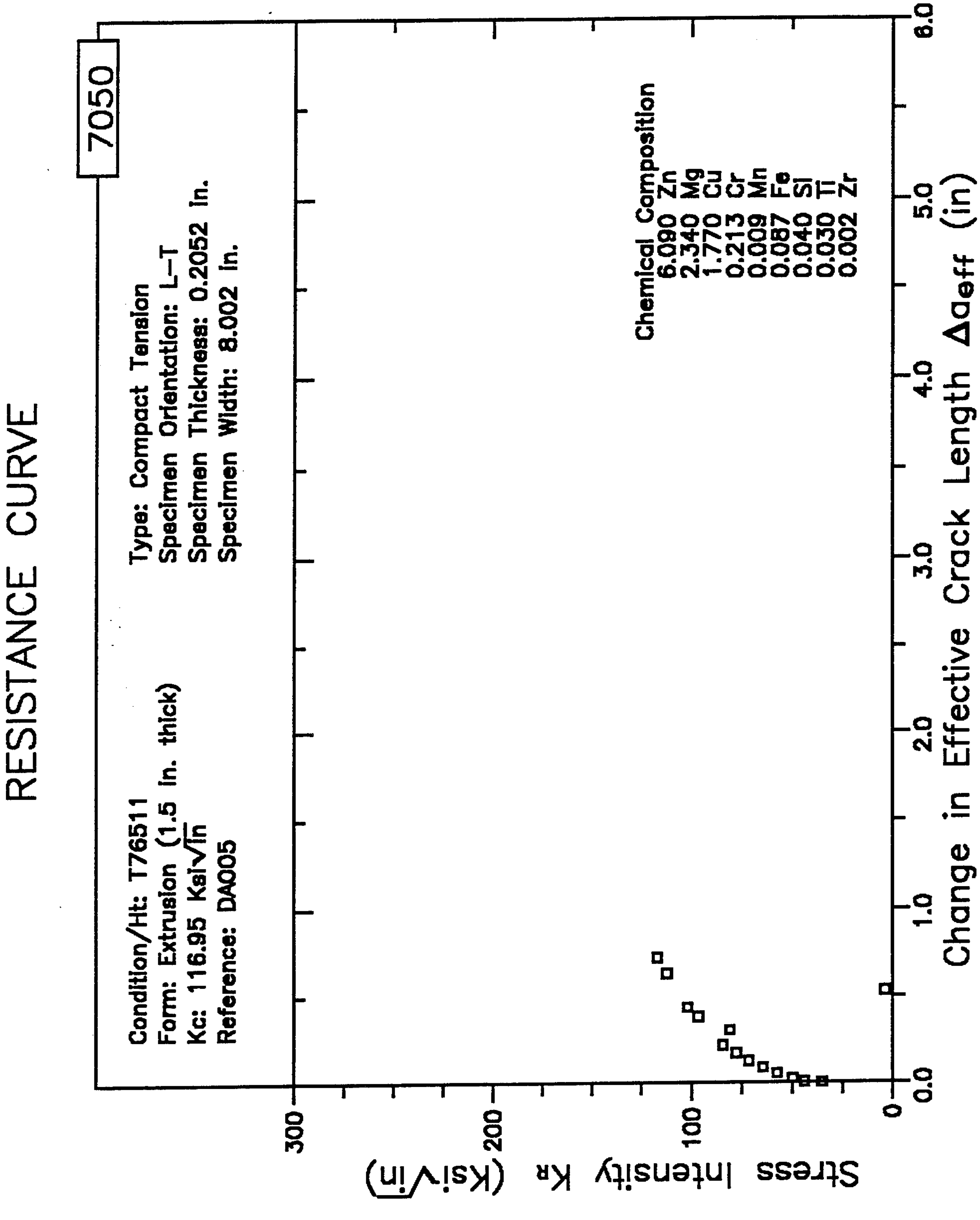


Figure 8.7.2.3.80

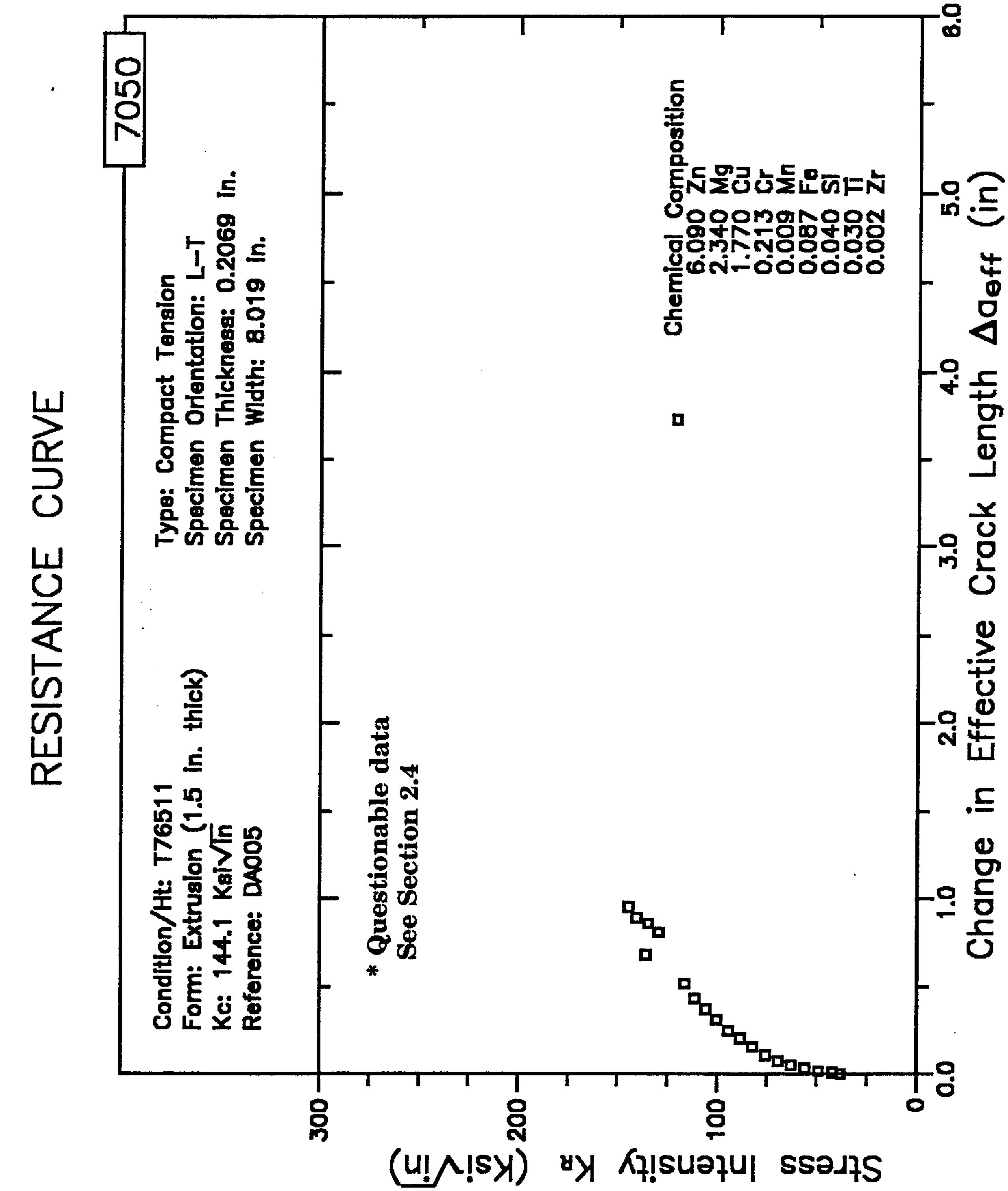


Figure 8.7.2.3.81

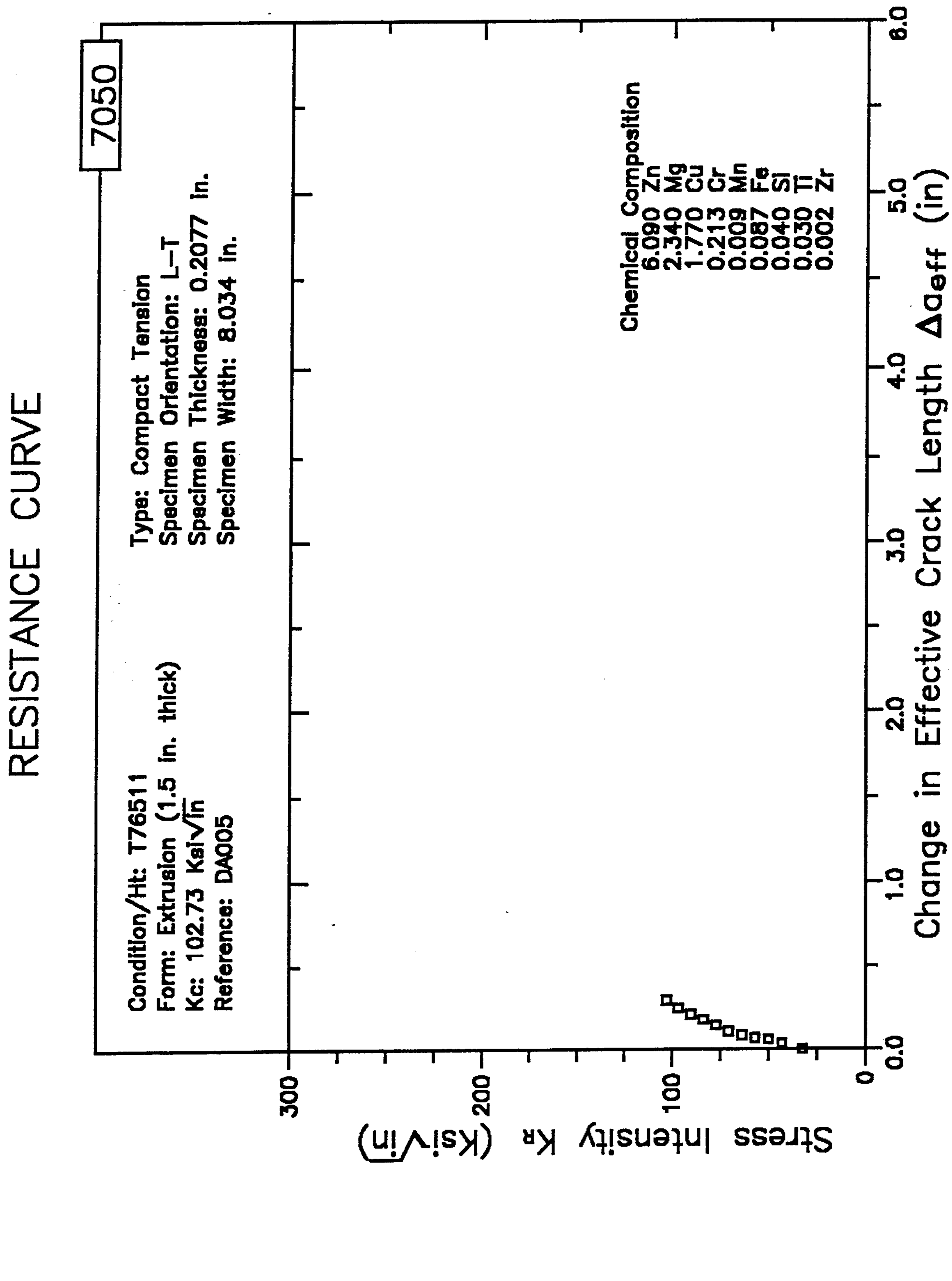


Figure 8.7.2.3.82

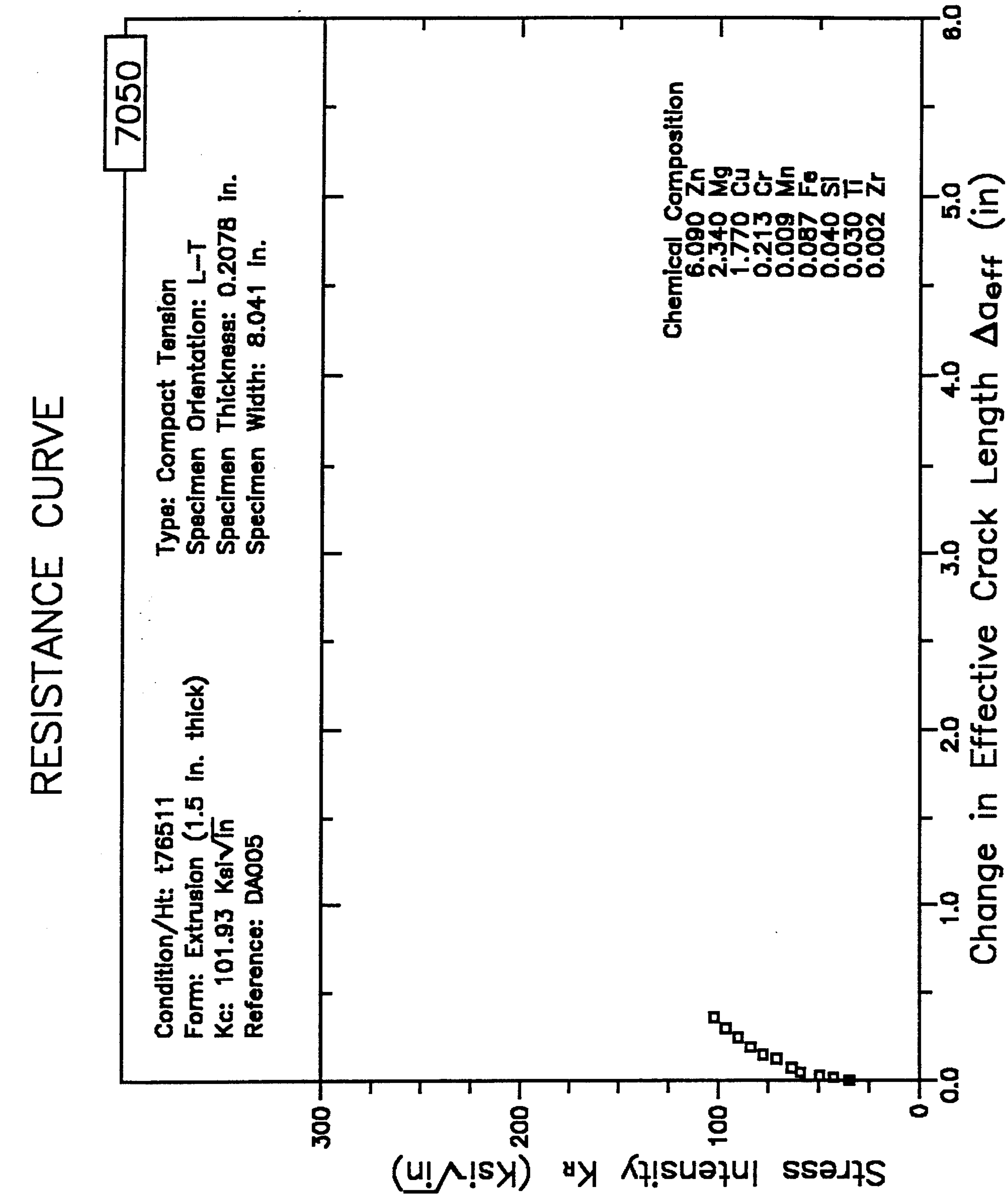


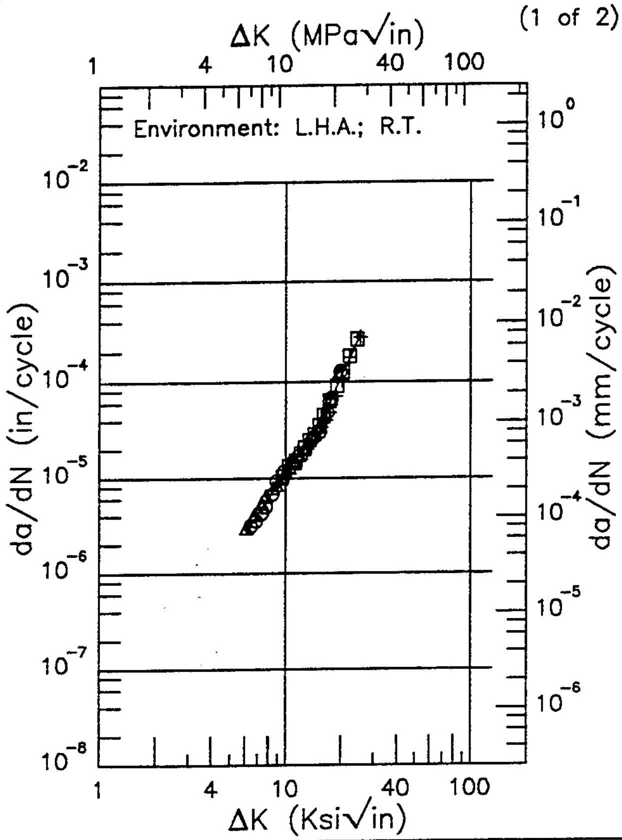
Figure 8.7.2.3.83

E — 7050

Condition/Ht: T6
Form: 0.18 in. Sheet
Specimen Type: CCP (max load specified)
Orientation: T–L
Stress Ratio: 0.33
Frequency: 13.3 Hz

Yield Strength: 74.5 – 75 ksi
Ult. Strength: 82.7 – 83.2 ksi
Specimen Thk: 0.176 – 0.18 in.
Specimen Width: 4 in.
Ref: 86213

(1 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.13 (min)	2.81
7.	4.10
8.	6.14
9.	8.76
10.	11.8
13.	22.0
16.	41.1
20.	115.
25.	281.
25.27 (max)	291.

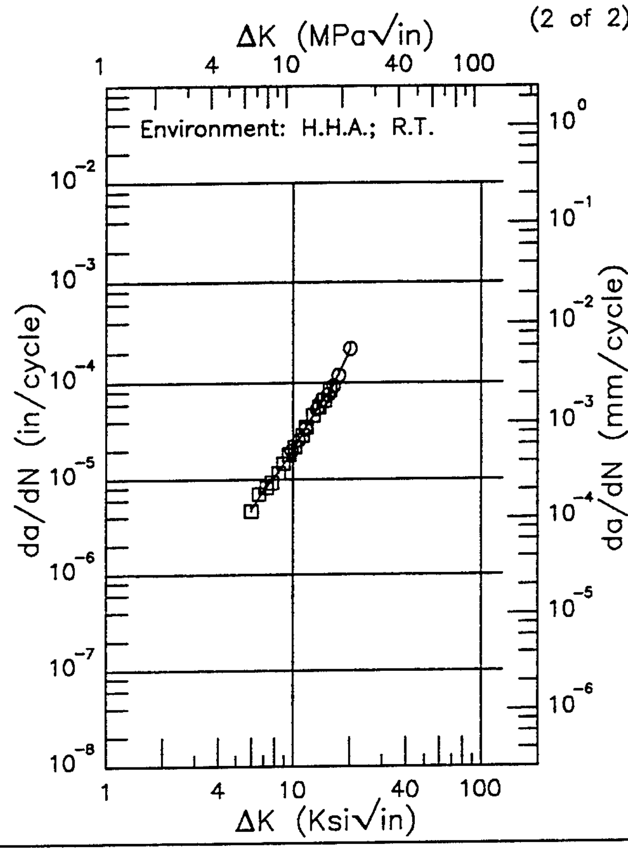
RMS % Error: 8.29

Life Prediction Ratio Summary

ΔⅢ +

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.00 (min)	4.85
7.	7.65
8.	10.7
9.	14.6
10.	20.1
13.	48.5
16.	86.3
20.	211.
20.15 (max)	218.

RMS % Error: 3.74

Life Prediction Ratio Summary

Ⅲ

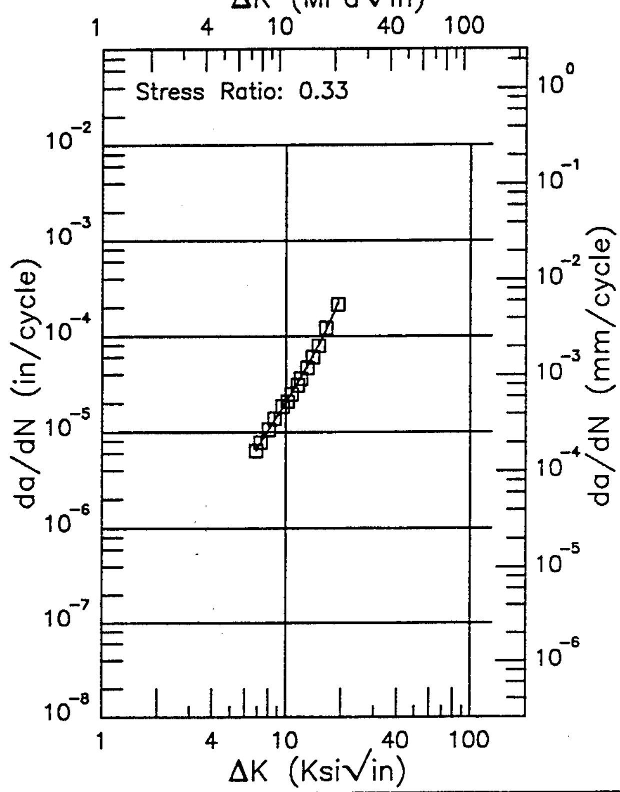
0. .5 .8 1.25 2.

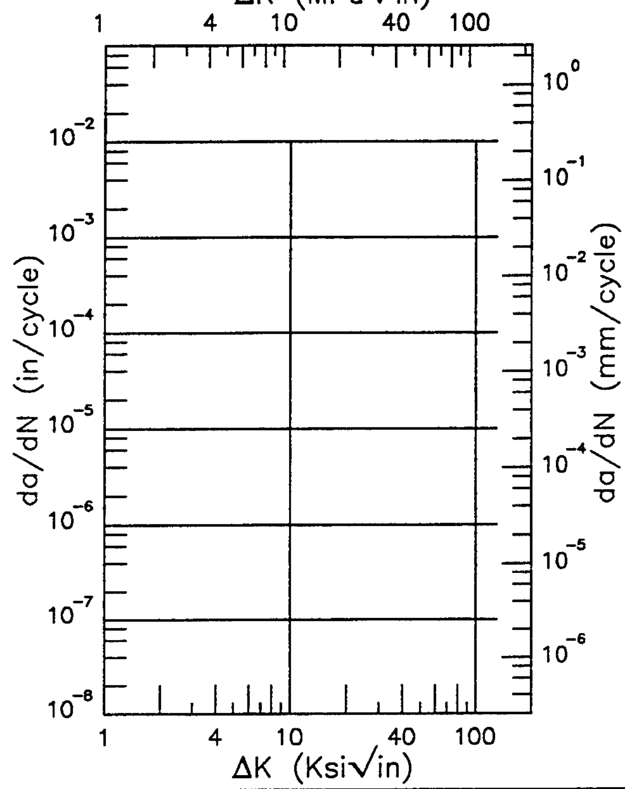
Figure 8.7.3.1.1

Condition/Ht: T6
Form: 0.18 in. Extrusion
Specimen Type: CCP (max load specified)
Orientation: T–L
Frequency: 13.3 Hz
Environment: H.H.A.; RT

Yield Strength: 74.5 ksi
Ult. Strength: 82.7 ksi
Specimen Thk: 0.181 in.
Specimen Width: 3.999 in.
Ref: 86213

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.88 (min)	6.63
7.	7.00
8.	10.5
9.	14.8
10.	20.4
13.	47.4
16.	103.
19.07 (max)	220.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
3.69	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.7.3.1.2

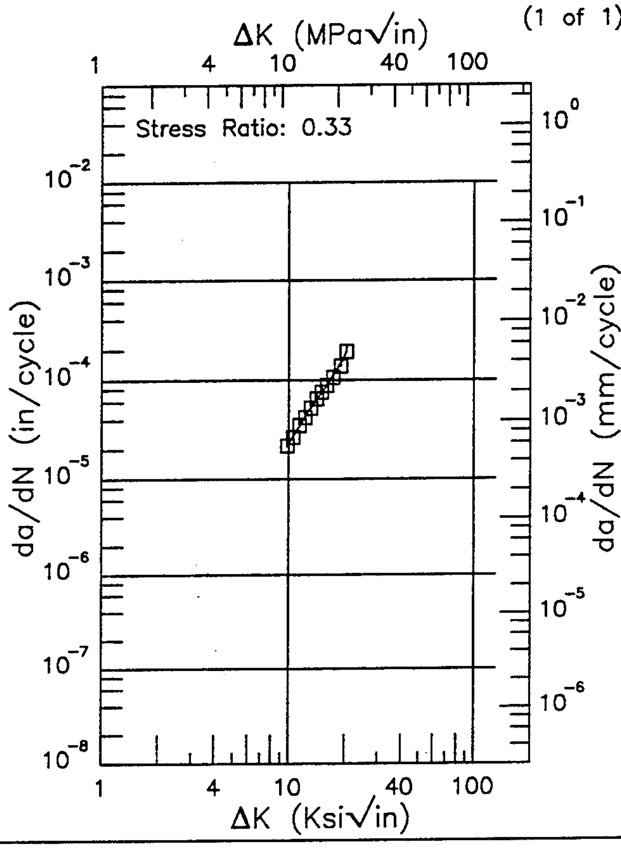
7050

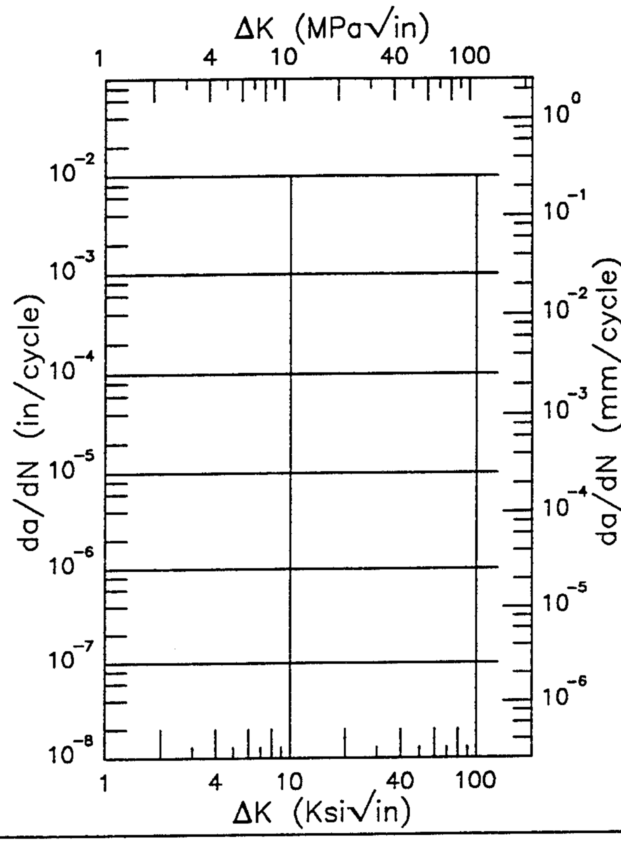
R

Condition/Ht: T6−412972
Form: 0.18 in. Sheet
Specimen Type: CCP (max load specified)
Orientation: T−L
Frequency: 13.3 Hz
Environment: H.H.A.; RT

Yield Strength: 75 ksi
Ult. Strength: 83.2 ksi
Specimen Thk: 0.177 in.
Specimen Width: 4 in.
Ref: 86213

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
9.77 (min)	21.6
10.	23.1
13.	51.4
16.	89.1
20.	173.
20.34 (max)	192.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
2.84	0. .5 .8 1.25 2.

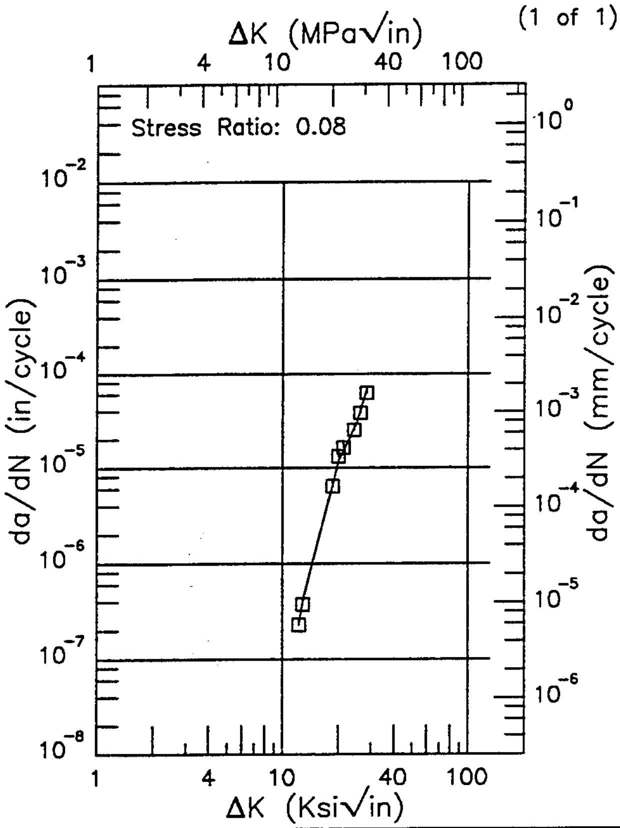
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

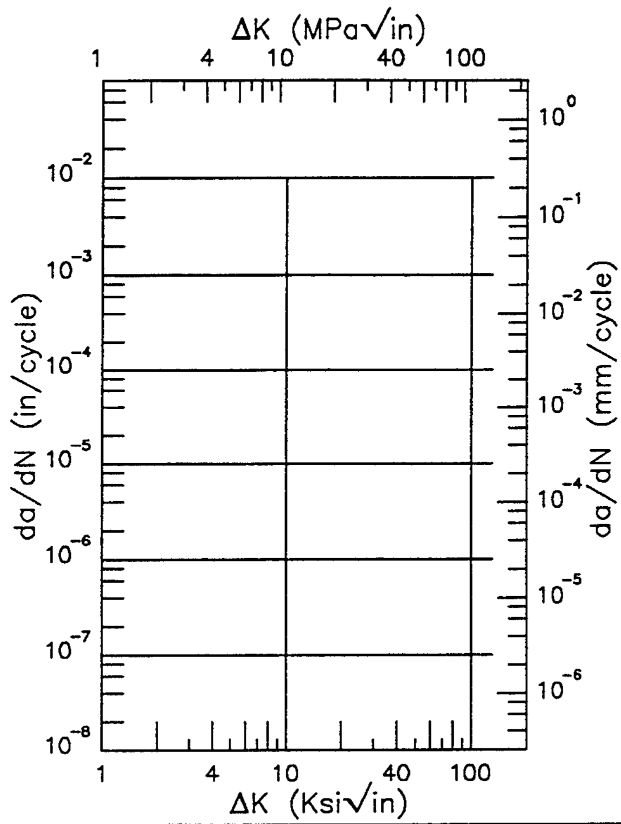
Figure 8.7.3.1.3

Condition/Ht: T73
Form: Forging
Specimen Type: CT
Orientation: L–T
Frequency: 6 Hz
Environment: L.H.A.; RT

Yield Strength: 71 ksi
Ult. Strength: 78 ksi
Specimen Thk: 0.5 in.
Specimen Width: 2.81 in.
Ref: 88579

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
12.21 (min)	0.236
13.	0.436
16.	2.20
20.	11.6
25.	29.6
28.21 (max)	63.9

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
8.93	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.7.3.1.4

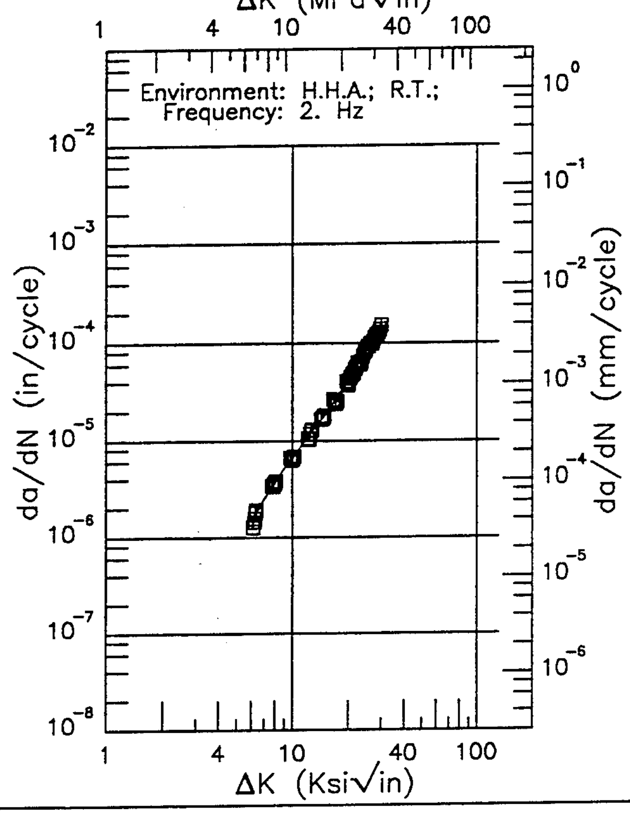
7050

EF

Condition/Ht: T7351
Form: 1 in. Plate
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.1

Yield Strength:
Ult. Strength:
Specimen Thk: 0.148 – 0.152 in.
Specimen Width: 3 in.
Ref: 86844

(1 of 3)



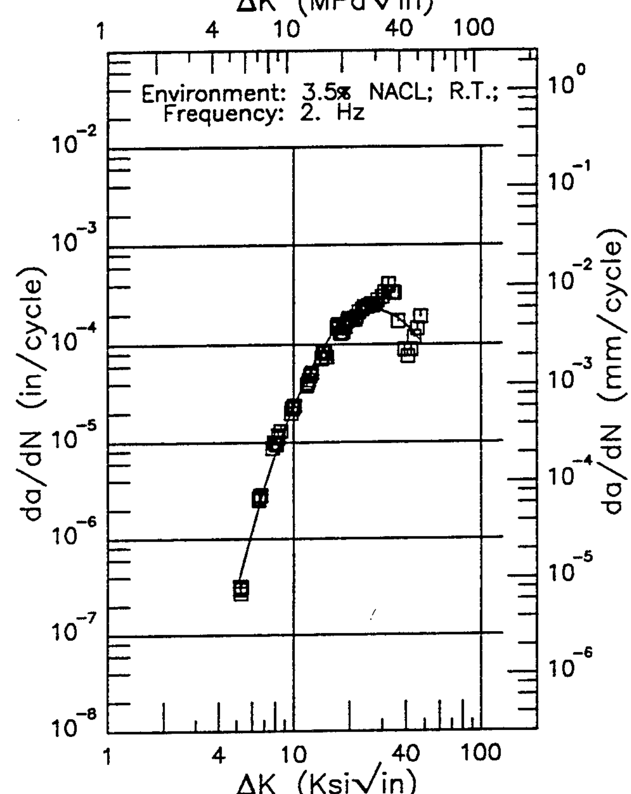
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.08 (min)	1.52
7.	2.47
8.	3.71
9.	5.15
10.	6.79
13.	13.1
16.	22.4
20.	41.9
25.	83.8
30.	139.
30.08 (max)	139.

RMS % Error 5.65

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.19 (min)	0.394
6.	1.17
7.	3.34
8.	7.48
9.	14.2
10.	23.7
13.	67.4
16.	122.
20.	184.
25.	222.
30.	218.
35.	192.
40.	158.
47.69 (max)	109.

RMS % Error 27.48

Life Prediction Ratio Summary

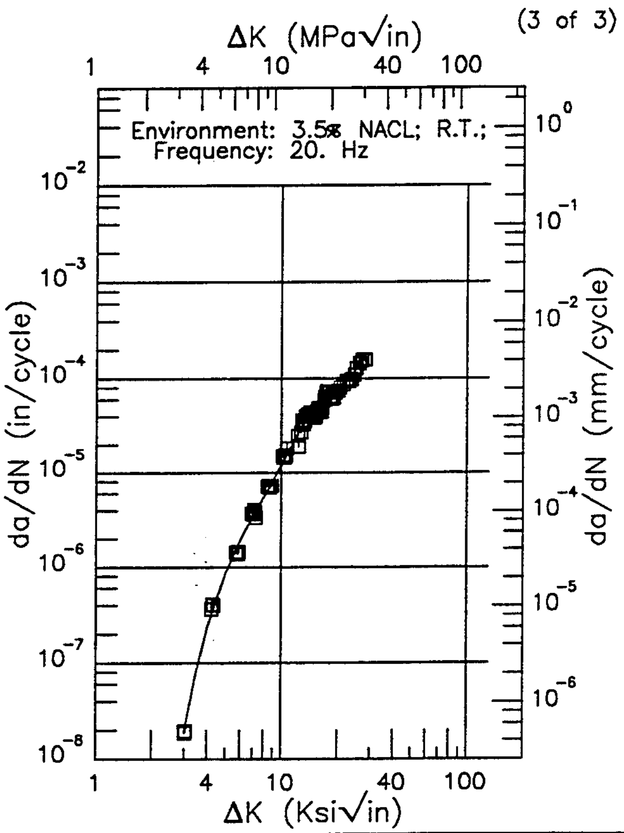
0. .5 .8 1.25 2.

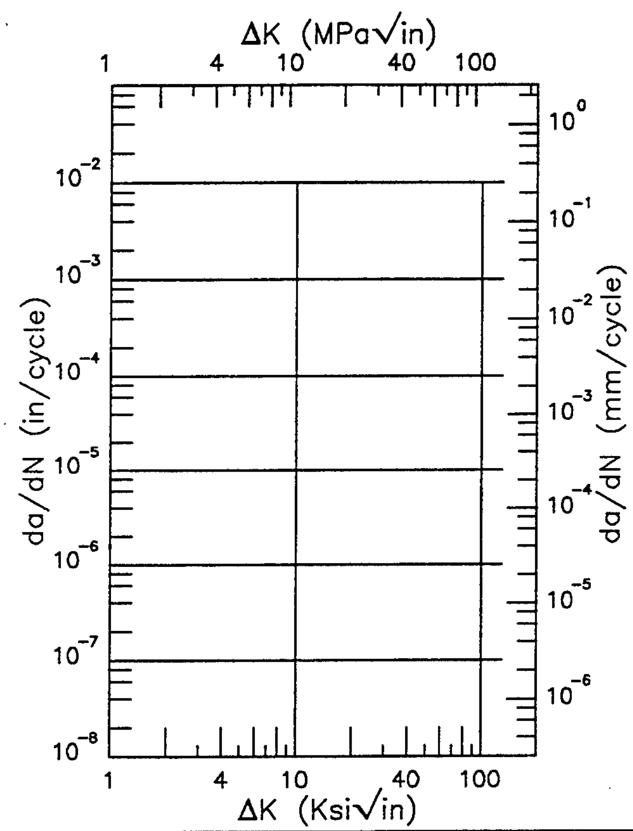
Figure 8.7.3.1.5

Condition/Ht: T7351
Form: 1 in. Plate
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.1

Yield Strength:
Ult. Strength:
Specimen Thk: 0.148 – 0.152 in.
Specimen Width: 3 in.
Ref: 86844

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.01 (min)	0.0190
3.5	0.0810
4.	0.228
5.	0.855
6.	1.92
7.	3.39
8.	5.38
9.	8.13
10.	12.1
13.	31.9
16.	53.9
20.	72.3
25.	124.
27.97 (max)	163.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
10.94	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

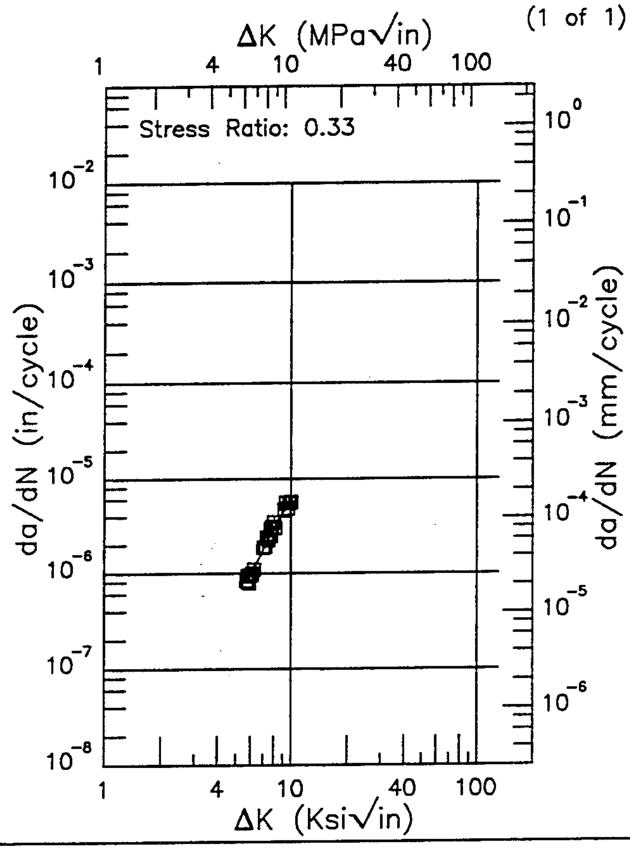
Figure 8.7.3.1.5 (Concluded)

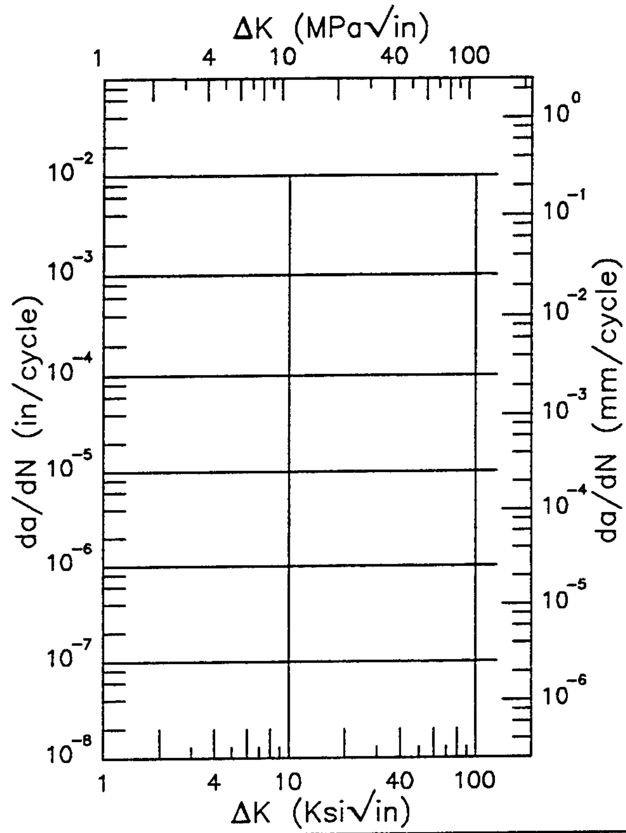
R 7050

Condition/Ht: T7351
Form: 2 in. Plate
Specimen Type: CT
Orientation: L–T
Frequency: 15 Hz
Environment: DRY AIR; RT

Yield Strength: 61.1 ksi
Ult. Strength: 71.8 ksi
Specimen Thk: 1 in.
Specimen Width: 3.805 in.
Ref: AL001

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
5.69 (min)	0.813
6.	0.939
7.	1.76
8.	3.03
9.	4.34
9.90 (max)	5.91

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error
7.60

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

RMS % Error

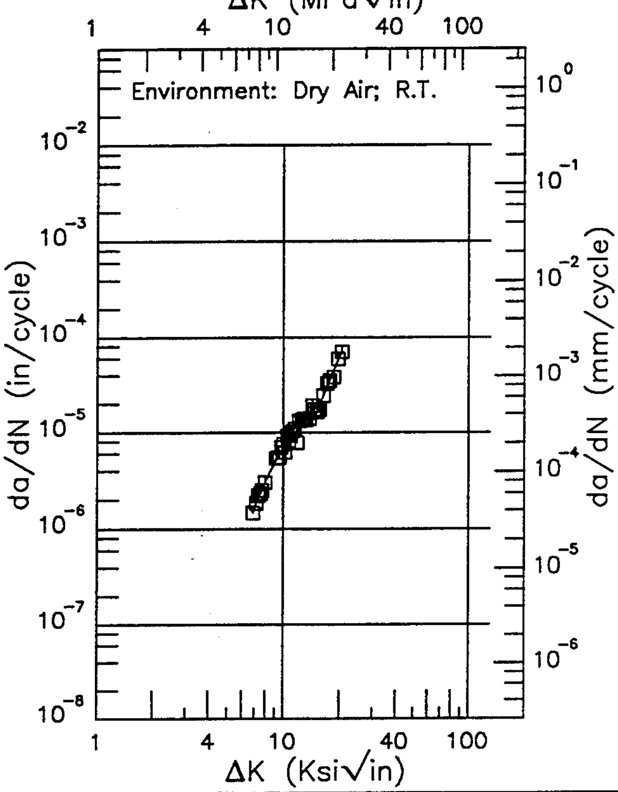
Life Prediction Ratio Summary
0. .5 .8 1.25 2.

Figure 8.7.3.1.6

Condition/Ht: T7351
Form: 2 – 4 in. Plate.
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.33
Frequency: 2 – 20 Hz

Yield Strength: 61.1 – 63.7 ksi
Ult. Strength: 71.8 – 73.1 ksi
Specimen Thk: 1 in.
Specimen Width: 3.1 in.
Ref: AL001

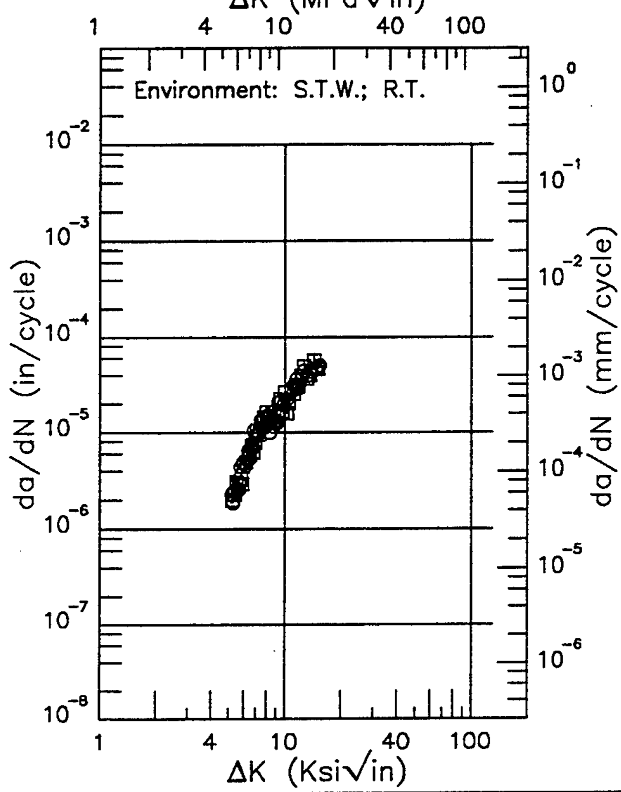
(1 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.85 (min)	1.51
7.	1.67
8.	3.06
9.	4.96
10.	7.17
13.	13.3
16.	21.9
20.	63.0
20.51 (max)	70.7

RMS % Error	Life Prediction Ratio Summary
10.02	0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.16 (min)	1.87
6.	4.37
7.	8.38
8.	12.9
9.	17.5
10.	22.2
13.	38.3
15.33 (max)	57.2

RMS % Error	Life Prediction Ratio Summary
15.73	0. .5 .8 1.25 2.

Figure 8.7.3.1.7

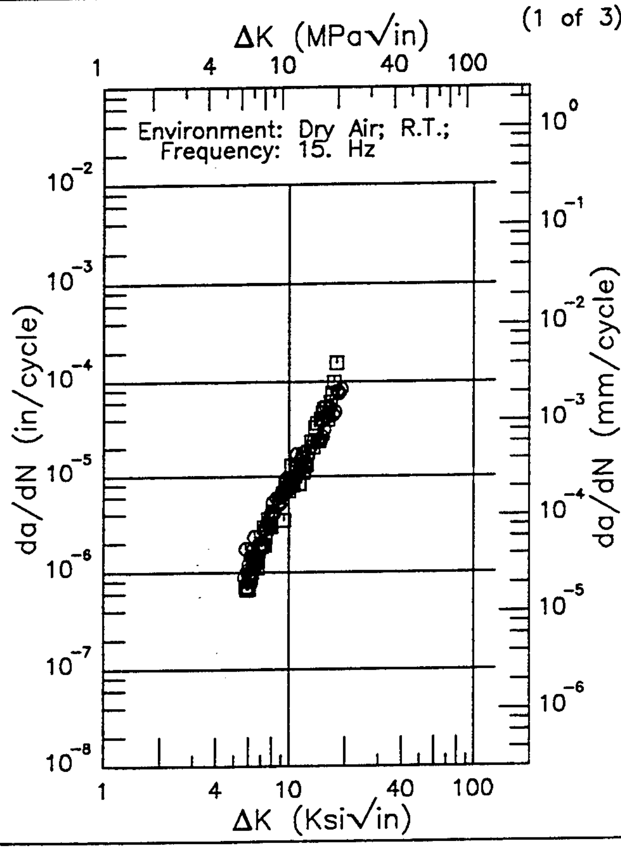
7050

EF

Condition/Ht: T7351
Form: 2 – 4 in. Plate
Specimen Type: CT
Orientation: T–L
Stress Ratio: 0.33

Yield Strength: 60.9 – 63.4 ksi
Ult. Strength: 72.1 – 74.4 ksi
Specimen Thk: 1 in.
Specimen Width: 3.805 in.
Ref: AL001

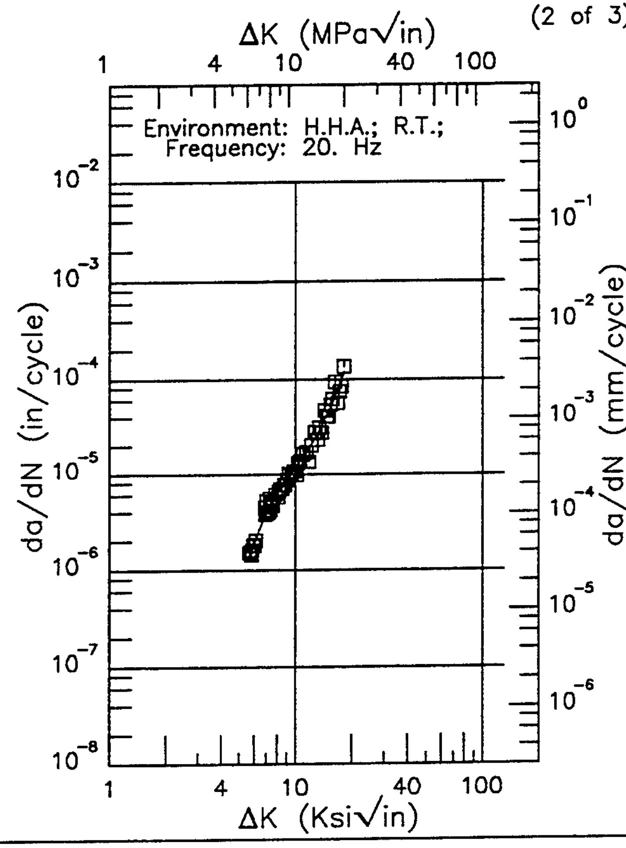
(1 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.69 (min)	0.706
6.	0.947
7.	2.02
8.	3.57
9.	5.60
10.	8.18
13.	20.6
16.	46.2
18.96 (max)	102.

RMS % Error	Life Prediction Ratio Summary
25.81	0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.68 (min)	1.43
6.	1.93
7.	3.89
8.	6.23
9.	8.83
10.	11.8
13.	25.4
16.	59.4
18.14 (max)	120.

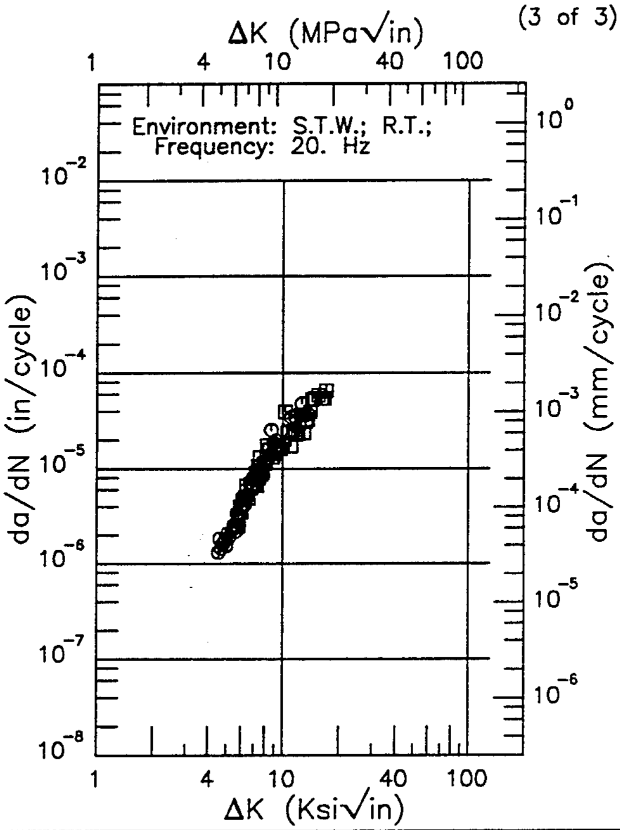
RMS % Error	Life Prediction Ratio Summary
14.01	0. .5 .8 1.25 2.

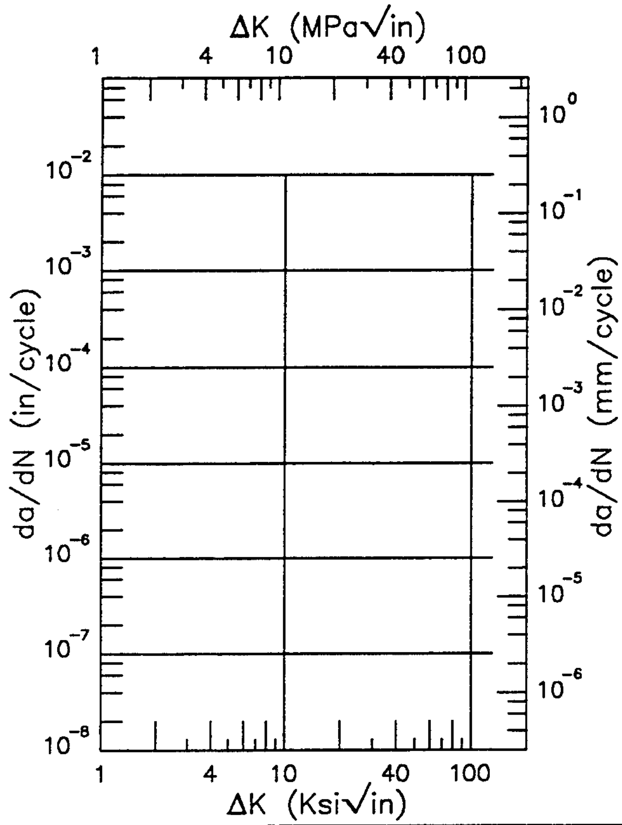
Figure 8.7.3.1.8

Condition/Ht: T7351
Form: 2 – 4 in. Plate
Specimen Type: CT
Orientation: T–L
Stress Ratio: 0.33

Yield Strength: 60.9 – 63.4 ksi
Ult. Strength: 72.1 – 74.4 ksi
Specimen Thk: 1 in.
Specimen Width: 3.805 in.
Ref: AL001

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.52 (min)	1.14
5.	1.83
6.	3.95
7.	7.04
8.	11.0
9.	15.7
10.	20.9
13.	37.8
16.	53.9
17.01 (max)	58.8

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
20.08	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.7.3.1.8 (Concluded)

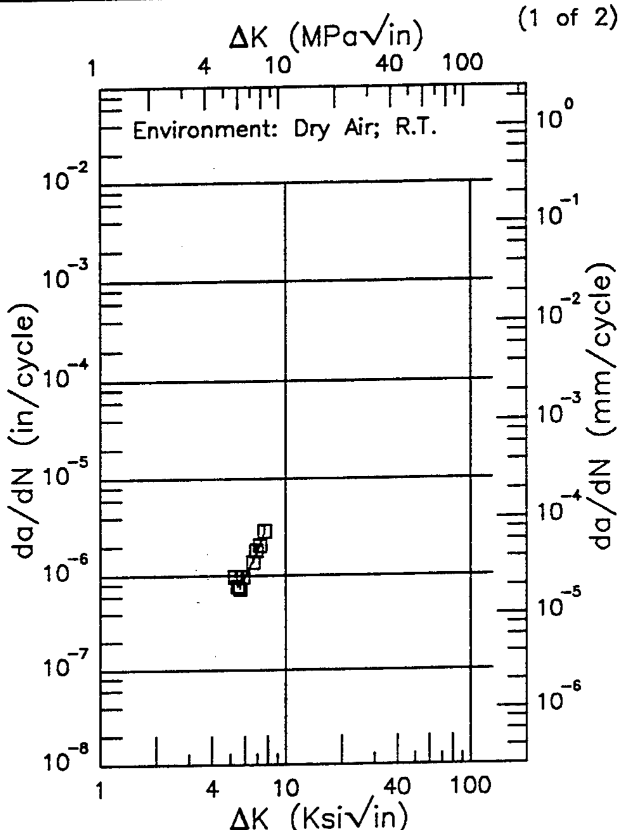
7050

E

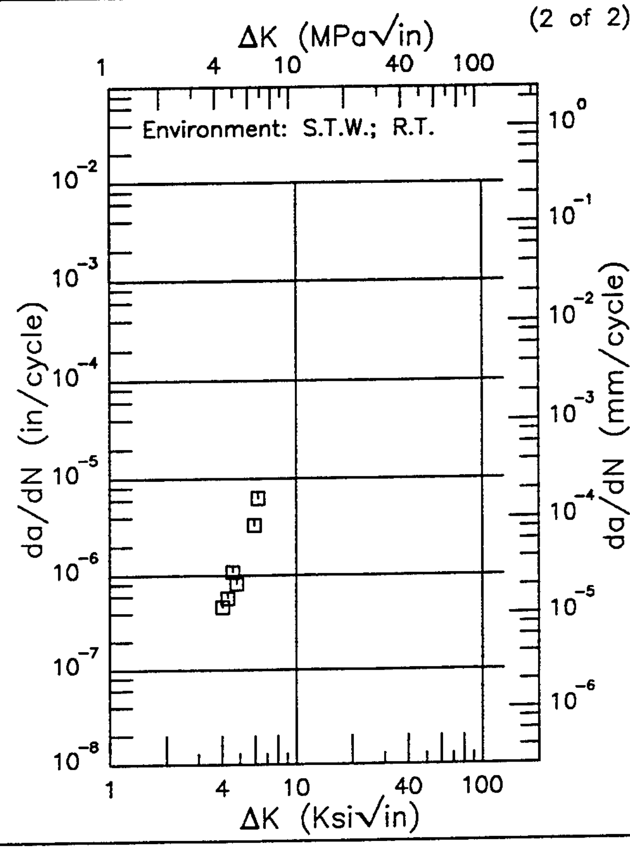
Condition/Ht: T7351
Form: 4 in. Plate
Specimen Type: CT
Orientation: T-L
Stress Ratio: 0.67
Frequency: 30 Hz

Yield Strength: 63.4 ksi
Ult. Strength: 74.4 ksi
Specimen Thk: 0.25 in.
Specimen Width: 2.55 in.
Ref: AL001

(1 of 2)



(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
5.28 (min)	0.840
6.	0.937
7.	1.77
7.69 (max)	2.77

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error	Life Prediction Ratio Summary
10.11	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.7.3.1.9

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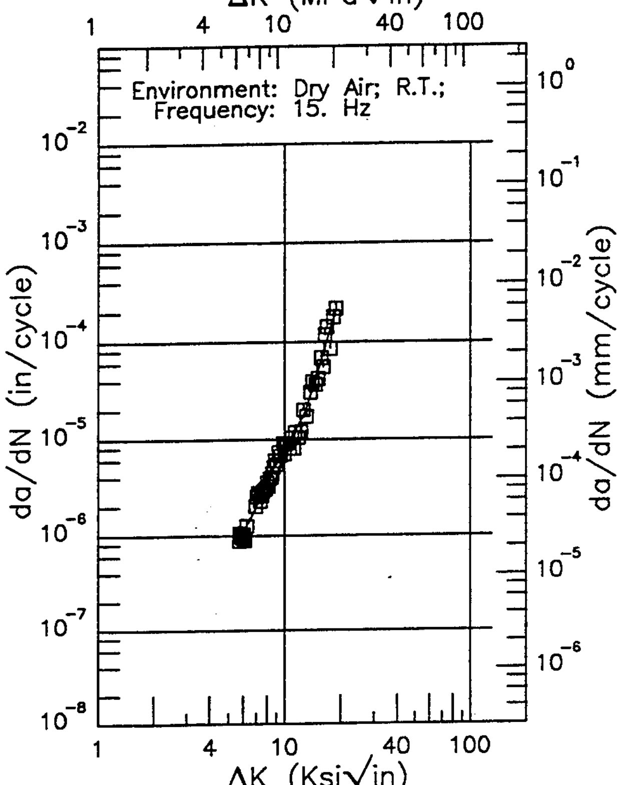
EF 7050

Condition/Ht: T7351
Form: 4 in. Plate
Specimen Type: CT
Orientation: S–L
Stress Ratio: 0.33

Yield Strength: 60 ksi
Ult. Strength: 72.4 ksi
Specimen Thk: 1 in.
Specimen Width: 3.805 in.
Ref: AL001

(1 of 3)



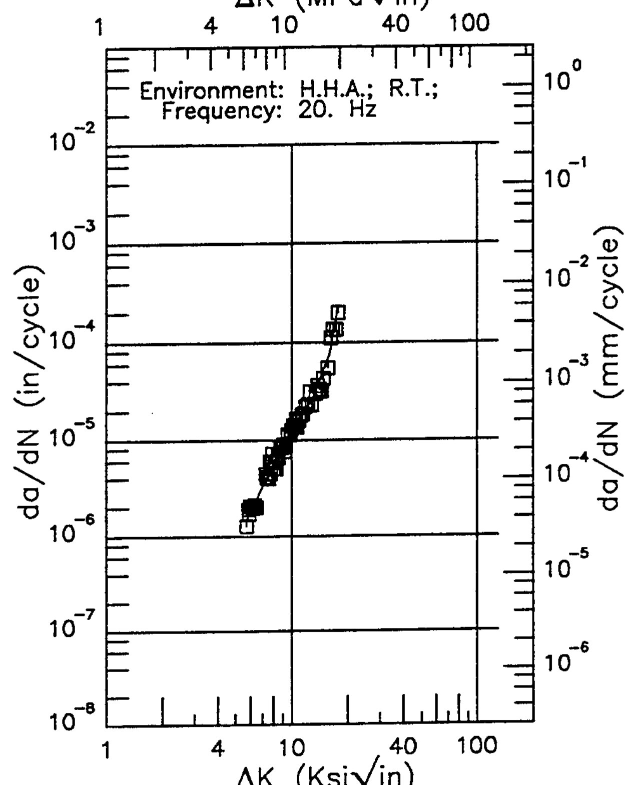
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.73 (min)	0.924
6.	1.05
7.	1.96
8.	3.64
9.	5.77
10.	7.62
13.	19.4
16.	73.6
18.78 (max)	206.

RMS % Error: 16.10

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.73 (min)	1.48
6.	1.76
7.	3.29
8.	5.64
9.	8.78
10.	12.4
13.	26.9
16.	74.3
17.68 (max)	219.

RMS % Error: 14.48

Life Prediction Ratio Summary

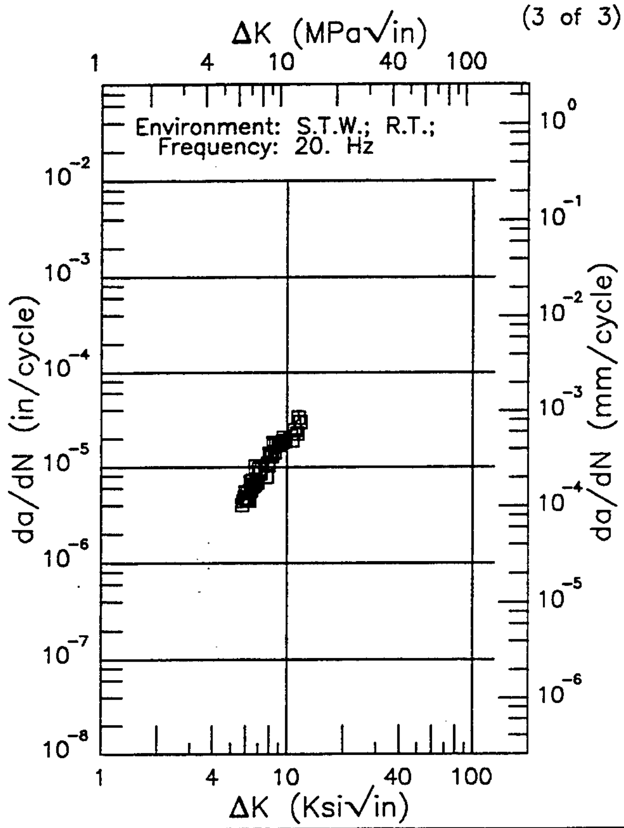
0. .5 .8 1.25 2.

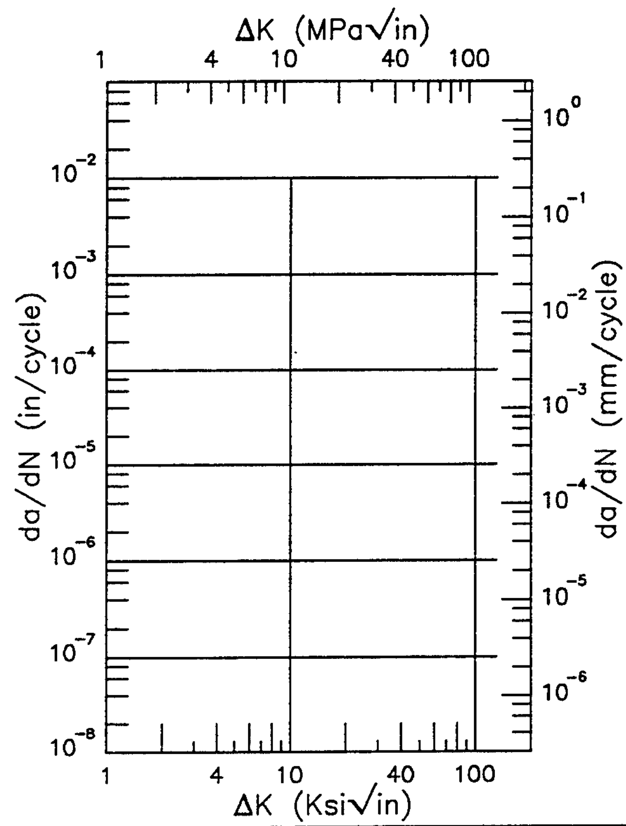
Figure 8.7.3.1.10

Condition/Ht: T7351
Form: 4 in. Plate
Specimen Type: CT
Orientation: S–L
Stress Ratio: 0.33

Yield Strength: 60 ksi
Ult. Strength: 72.4 ksi
Specimen Thk: 1 in.
Specimen Width: 3.805 in.
Ref: AL001

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.72 (min)	3.95
6.	4.89
7.	7.67
8.	11.3
9.	17.0
10.	19.7
11.73 (max)	35.0

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
14.17	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

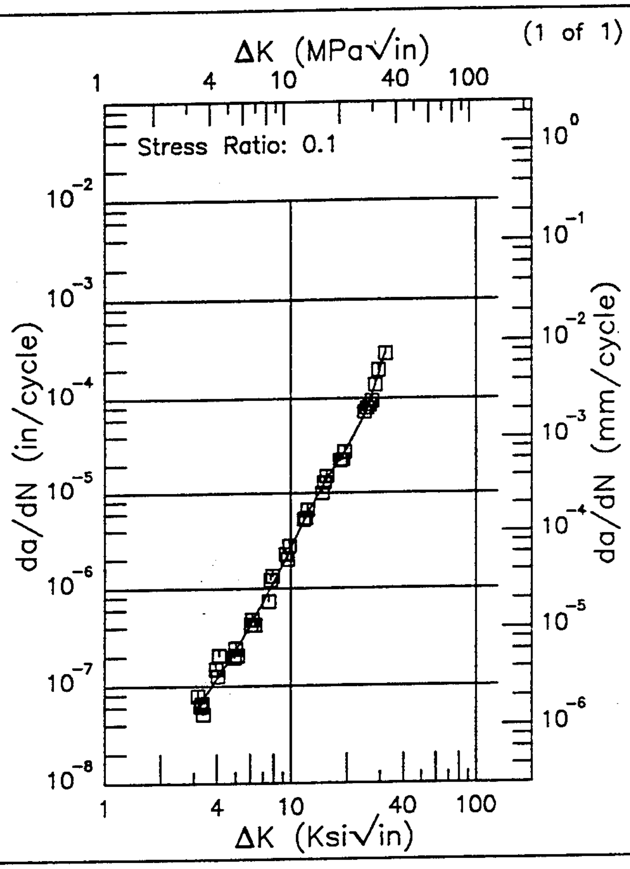
Figure 8.7.3.1.10 (Concluded)

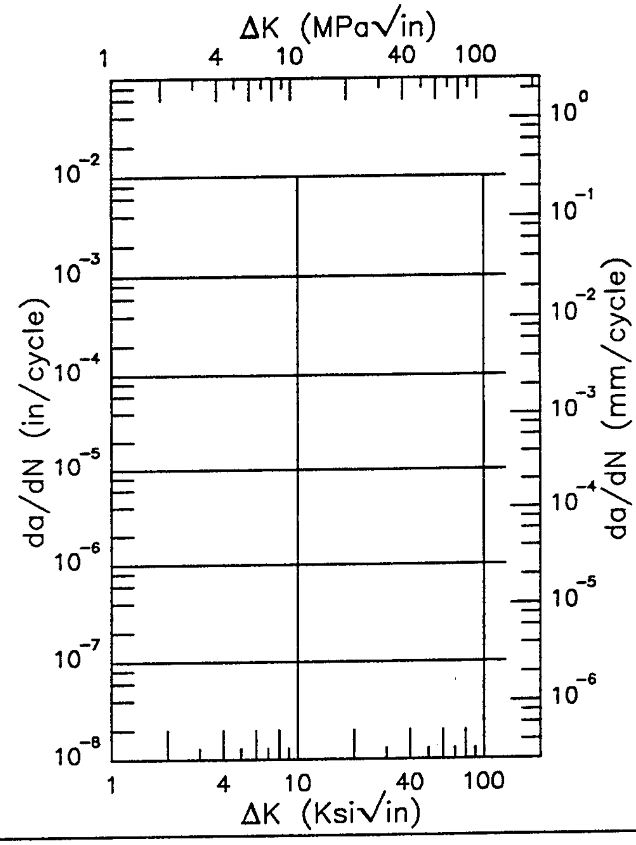
R 7050

Condition/Ht: T73511
Form: 1.8 in. Extrusion.
Specimen Type: CT
Orientation: L–T
Frequency: 10 – 30 Hz
Environment: L.H.A.; RT

Yield Strength:
Ult. Strength:
Specimen Thk: 0.249 in.
Specimen Width: 2.5 in.
Ref: AL006

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
3.16 (min)	0.0619
3.5	0.0809
4.	0.117
5.	0.230
6.	0.416
7.	0.708
8.	1.14
9.	1.77
10.	2.64
13.	7.31
16.	15.4
20.	29.8
25.	69.6
30.	204.
31.94 (max)	291.

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error	Life Prediction Ratio Summary
16.60	0. .5 .8 1.25 2.

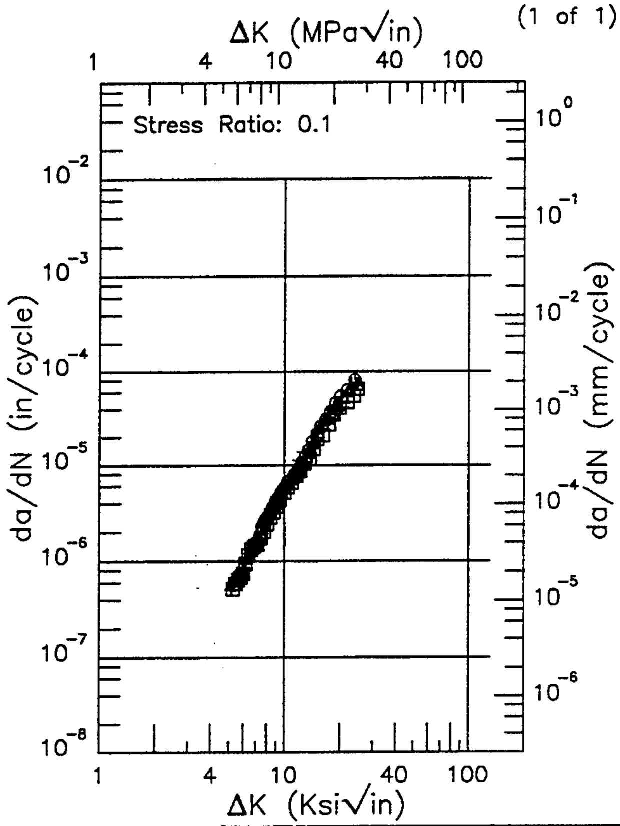
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

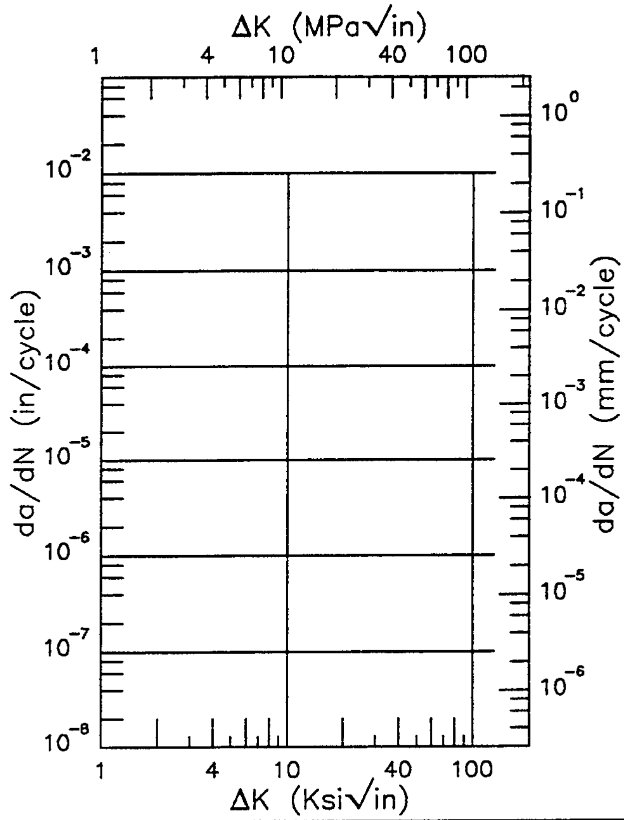
Figure 8.7.3.1.11

Condition/Ht: T73511
Form: Extrusion
Specimen Type: CT
Orientation: L–T
Frequency: 10 Hz
Environment: LAB AIR; RT

Yield Strength:
Ult. Strength:
Specimen Thk: 0.25 – 0.251 in.
Specimen Width: 2 in.
Ref: NC005

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.17 (min)	0.471
6.	0.865
7.	1.56
8.	2.51
9.	3.77
10.	5.37
13.	12.7
16.	25.4
20.	49.7
24.73 (max)	69.0

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
8.98	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

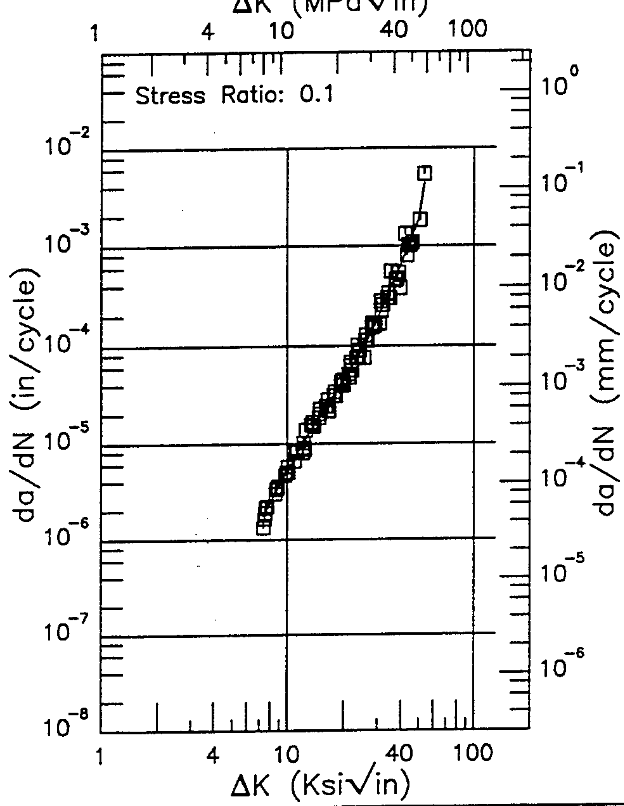
Figure 8.7.3.1.12

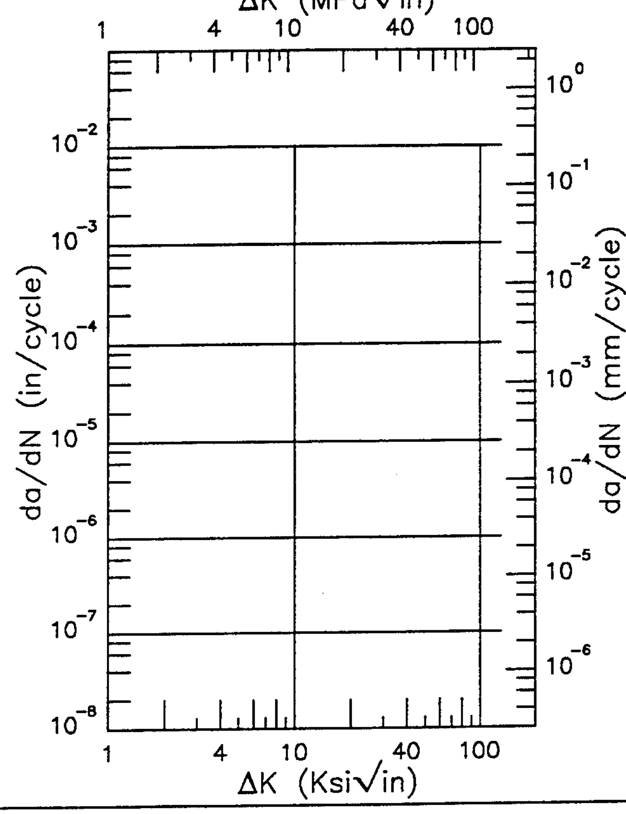
R 7050

Condition/Ht: T73511
Form: Extrusion
Specimen Type: CT
Orientation: L-T
Frequency: 2 Hz
Environment: H.H.A.; RT

Yield Strength:
Ult. Strength:
Specimen Thk: 0.154 in.
Specimen Width: 3 in.
Ref: 86844

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
7.40 (min)	1.78
8.	2.39
9.	3.66
10.	5.27
13.	12.4
16.	23.4
20.	45.3
25.	90.9
30.	181.
35.	366.
40.	649.
50.	1834.
53.47 (max)	4433.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
14.93	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.7.3.1.13

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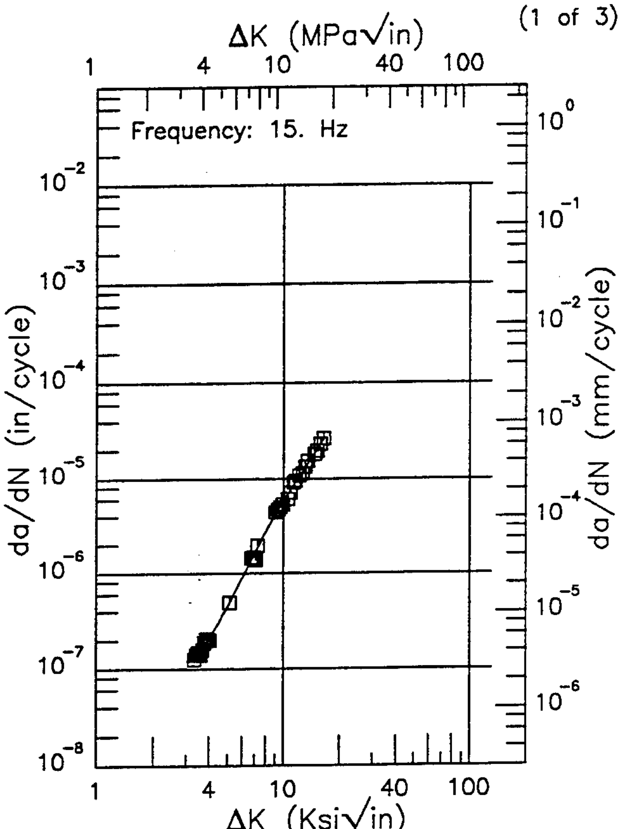
F — 7050

Condition/Ht: T73511	Yield Strength:
Form: 1.8 in. Extrusion	Ult. Strength:
Specimen Type: CT	Specimen Thk: 0.248 – 0.249 in.
Orientation: L–T	Specimen Width: 2.5 in.
Stress Ratio: 0.1	Ref: AL004;AL006
Environment: H.H.A.; RT	

(1 of 3)



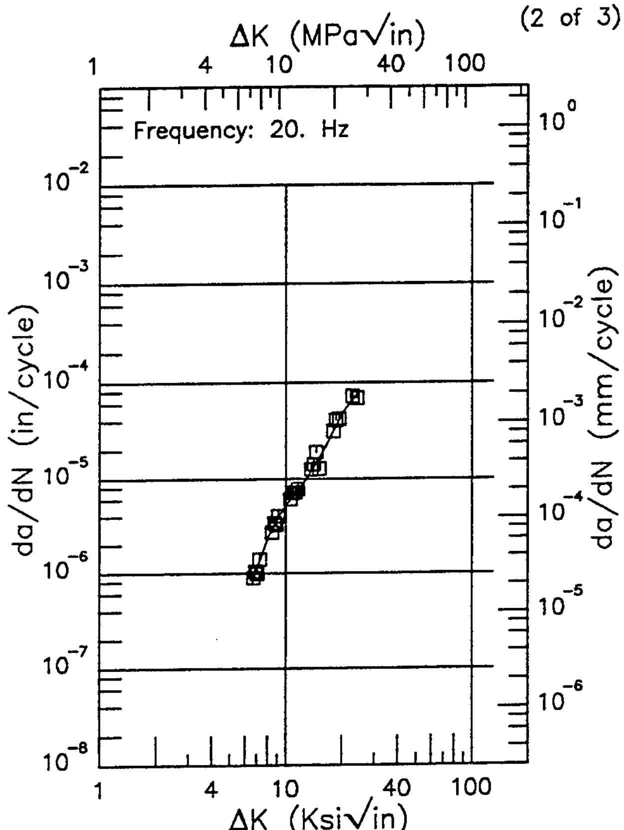
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.31 (min)	0.125
3.5	0.142
4.	0.207
5.	0.444
6.	0.889
7.	1.62
8.	2.70
9.	4.14
10.	5.89
13.	12.9
16.	24.6
16.26 (max)	26.0

RMS % Error: 6.06

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.68 (min)	0.803
7.	1.11
8.	2.33
9.	3.76
10.	5.23
13.	10.2
16.	19.7
20.	47.7
23.95 (max)	75.3

RMS % Error: 10.63

Life Prediction Ratio Summary

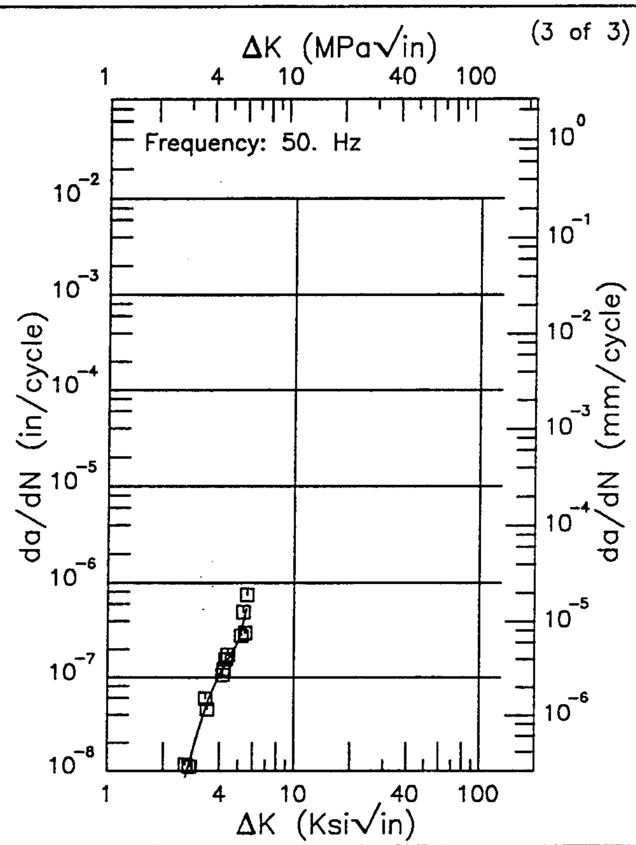
0. .5 .8 1.25 2.

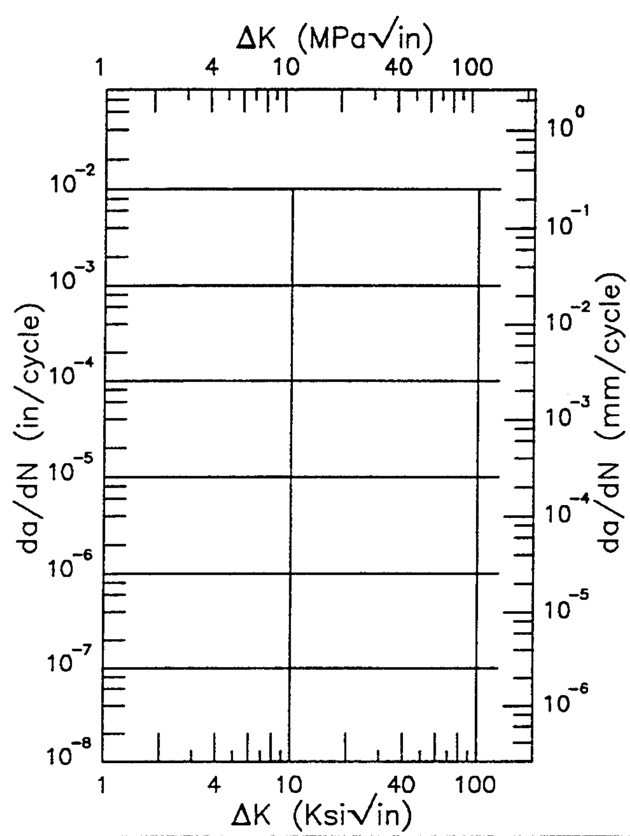
Figure 8.7.3.1.14

Condition/Ht: T73511
Form: 1.8 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.1
Environment: H.H.A.; RT

Yield Strength:
Ult. Strength:
Specimen Thk: 0.248 – 0.249 in.
Specimen Width: 2.5 in.
Ref: AL004;AL006

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.62 (min)	0.00855
3.	0.0230
3.5	0.0596
4.	0.108
5.	0.239
5.55 (max)	0.545

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
22.88	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

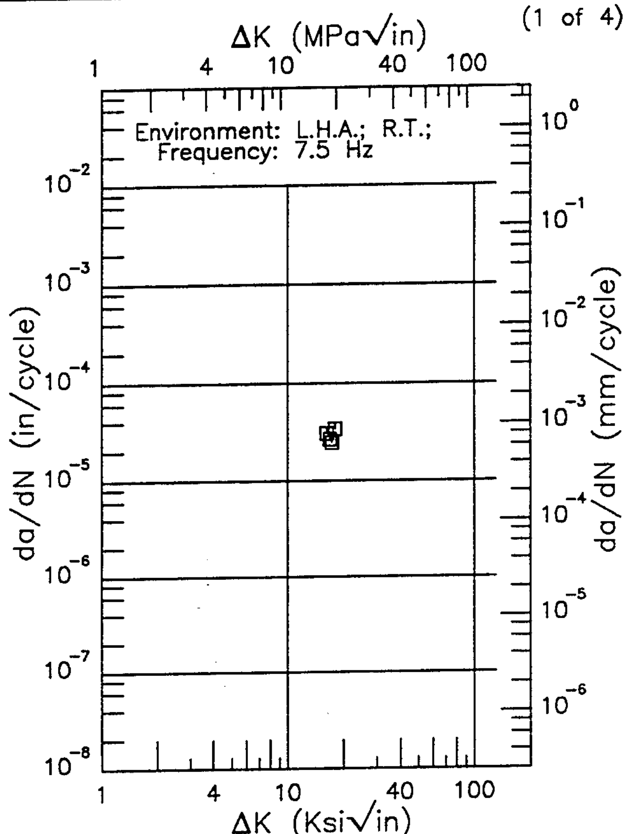
Figure 8.7.3.1.14 (Concluded)

EF 7050

Condition/Ht: T73511
Form: 1.8 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.33

Yield Strength:
Ult. Strength:
Specimen Thk: 1 – 1.003 in.
Specimen Width: 3.1 in.
Ref: AL006

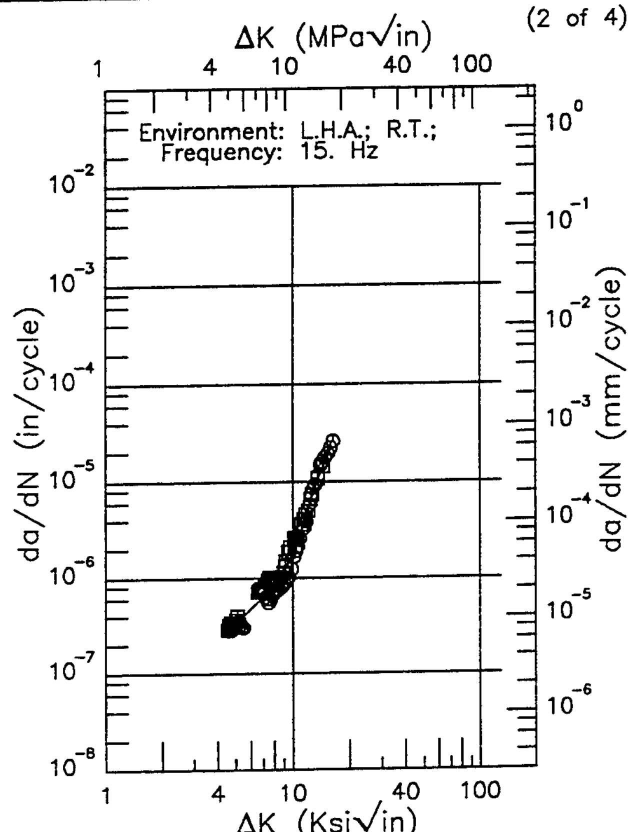
(1 of 4)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

(2 of 4)



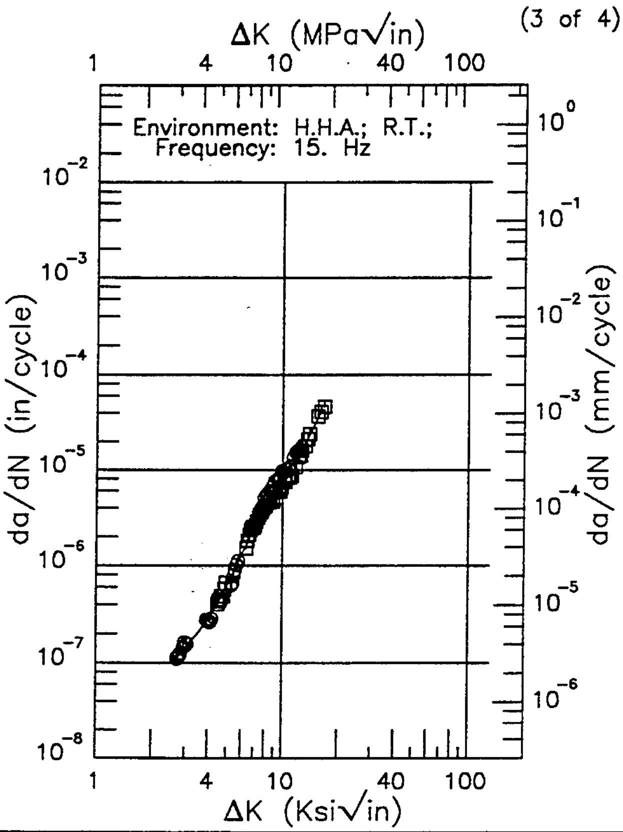
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.51 (min)	0.244
5.	0.324
6.	0.475
7.	0.637
8.	0.859
9.	1.21
10.	1.80
13.	8.35
16.	22.3
16.32 (max)	21.9

RMS % Error	Life Prediction Ratio Summary
17.58	0. .5 .8 1.25 2.

Figure 8.7.3.1.15

Condition/Ht: T73511
Form: 1.8 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.33

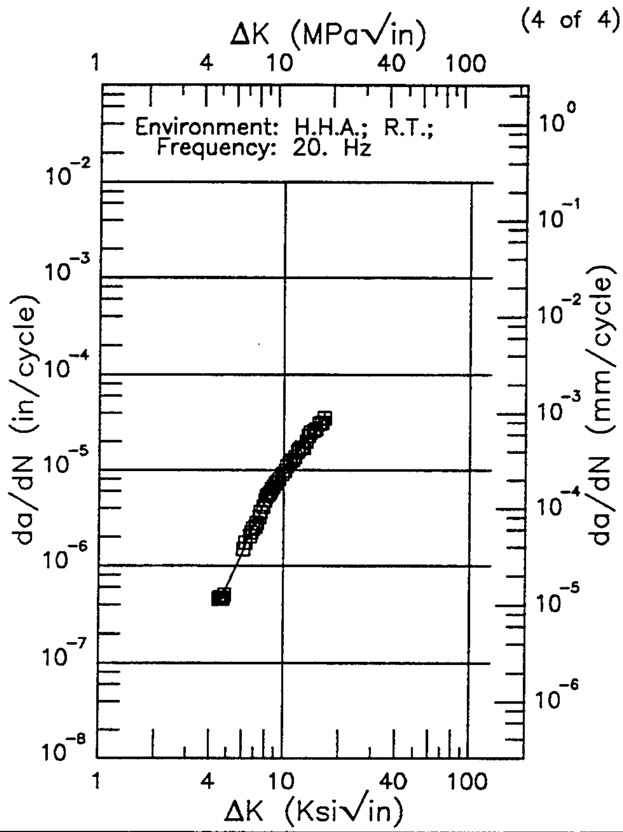
Yield Strength:
Ult. Strength:
Specimen Thk: 1 – 1.003 in.
Specimen Width: 3.1 in.
Ref: AL006



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.72 (min)	0.127
3.	0.143
3.5	0.195
4.	0.282
5.	0.611
6.	1.27
7.	2.43
8.	4.17
9.	6.30
10.	8.44
13.	17.1
16.	40.9
16.62 (max)	43.8

RMS % Error: 11.94

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.48 (min)	0.394
5.	0.611
6.	1.36
7.	2.69
8.	4.63
9.	6.99
10.	9.58
13.	19.3
16.	31.9
16.46 (max)	33.5

RMS % Error: 5.06

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

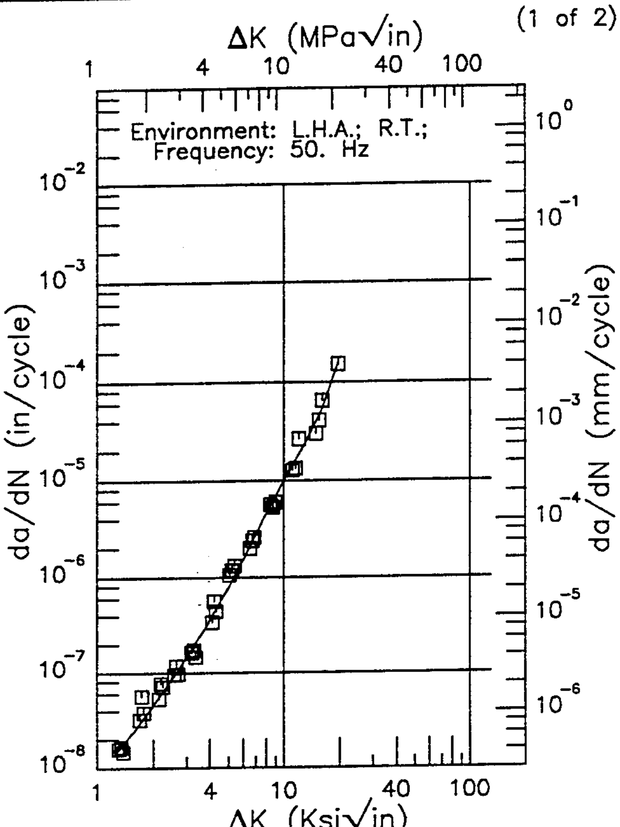
Figure 8.7.3.1.15 (Concluded)

EF 7050

Condition/Ht: T73511
Form: 1.8 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.5

Yield Strength:
Ult. Strength:
Specimen Thk: 0.249 in.
Specimen Width: 2.5 in.
Ref: AL006

(1 of 2)



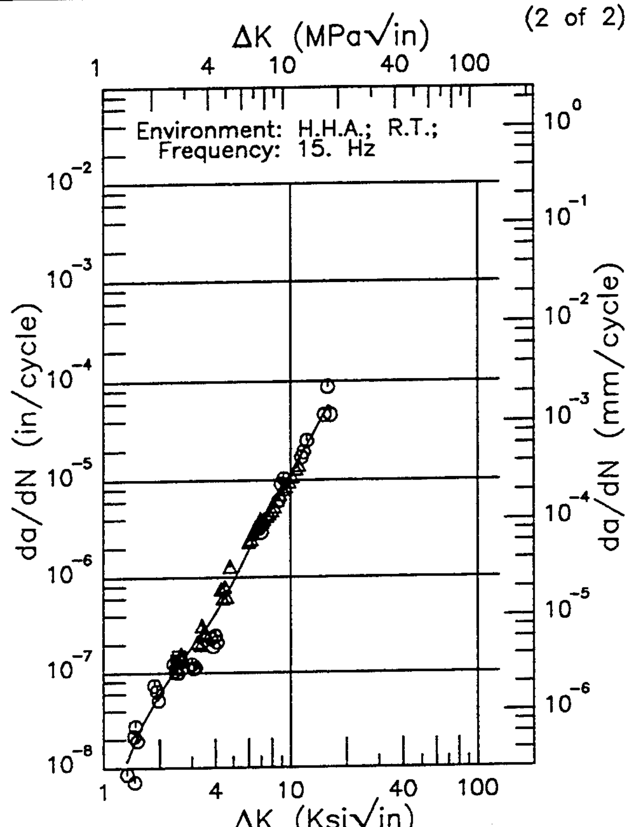
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.30 (min)	0.0153
1.6	0.0256
2.	0.0460
2.5	0.0855
3.	0.146
3.5	0.236
4.	0.363
5.	0.779
6.	1.52
7.	2.74
8.	4.55
9.	7.04
10.	10.2
13.	23.6
16.	52.6
19.47 (max)	151.

RMS % Error
22.09

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.33 (min)	0.0117
1.6	0.0270
2.	0.0599
2.5	0.115
3.	0.187
3.5	0.284
4.	0.420
5.	0.898
6.	1.91
7.	3.69
8.	6.20
9.	8.98
10.	11.6
13.	27.6
16.	56.5
16.39 (max)	54.9

RMS % Error
25.68

Life Prediction Ratio Summary

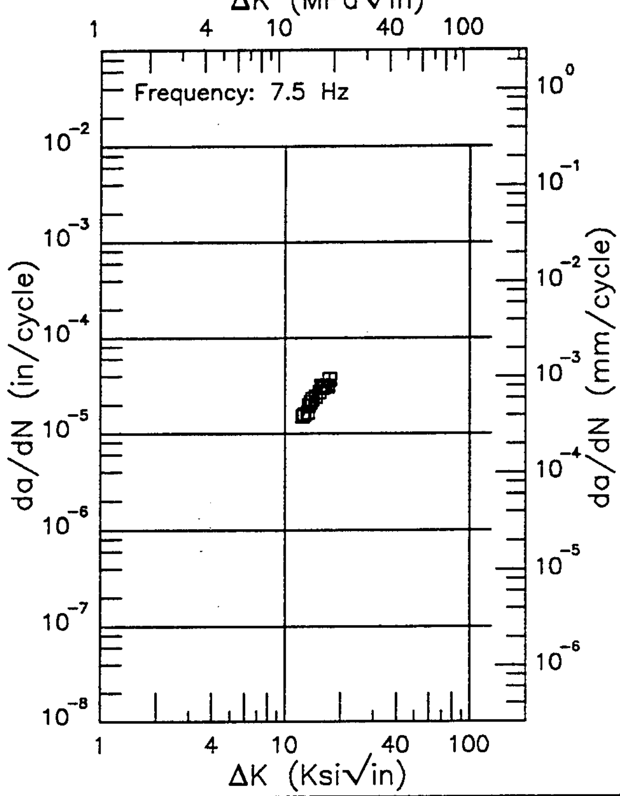
0. .5 .8 1.25 2.

Figure 8.7.3.1.16

Condition/Ht: T73511
Form: 1.8 in. Extrusion
Specimen Type: CT
Orientation: T–L
Stress Ratio: 0.33
Environment: L.H.A.; RT

Yield Strength:
Ult. Strength:
Specimen Thk: 0.998 – 1 in.
Specimen Width: 3.805 in.
Ref: AL006;AL004

(1 of 2)



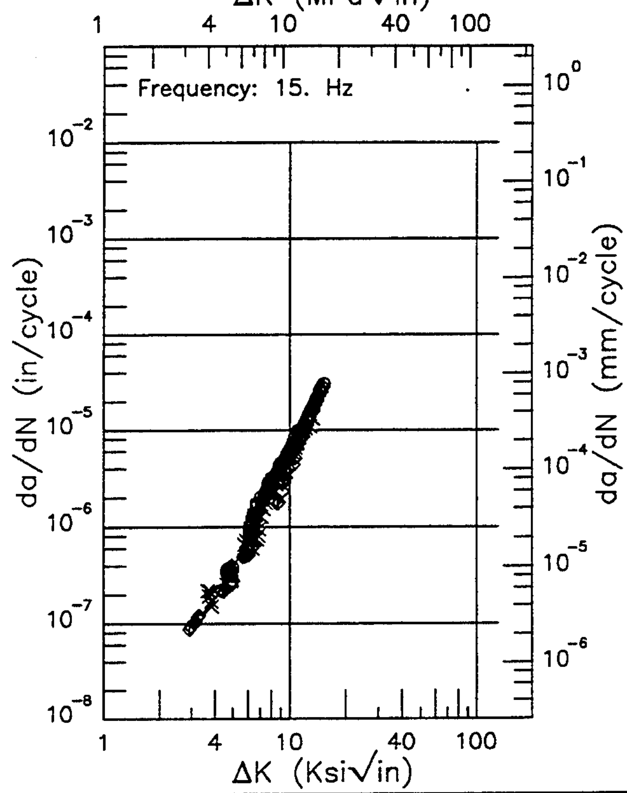
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
12.37 (min)	14.5
13.	17.2
16.	30.1
17.38 (max)	33.1

RMS % Error 5.56

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.91 (min)	0.109
3.	0.110
3.5	0.134
4.	0.182
5.	0.373
6.	0.757
7.	1.43
8.	2.48
9.	3.93
10.	5.77
13.	15.5
15.16 (max)	32.0

RMS % Error 19.95

Life Prediction Ratio Summary

+

0. .5 .8 1.25 2.

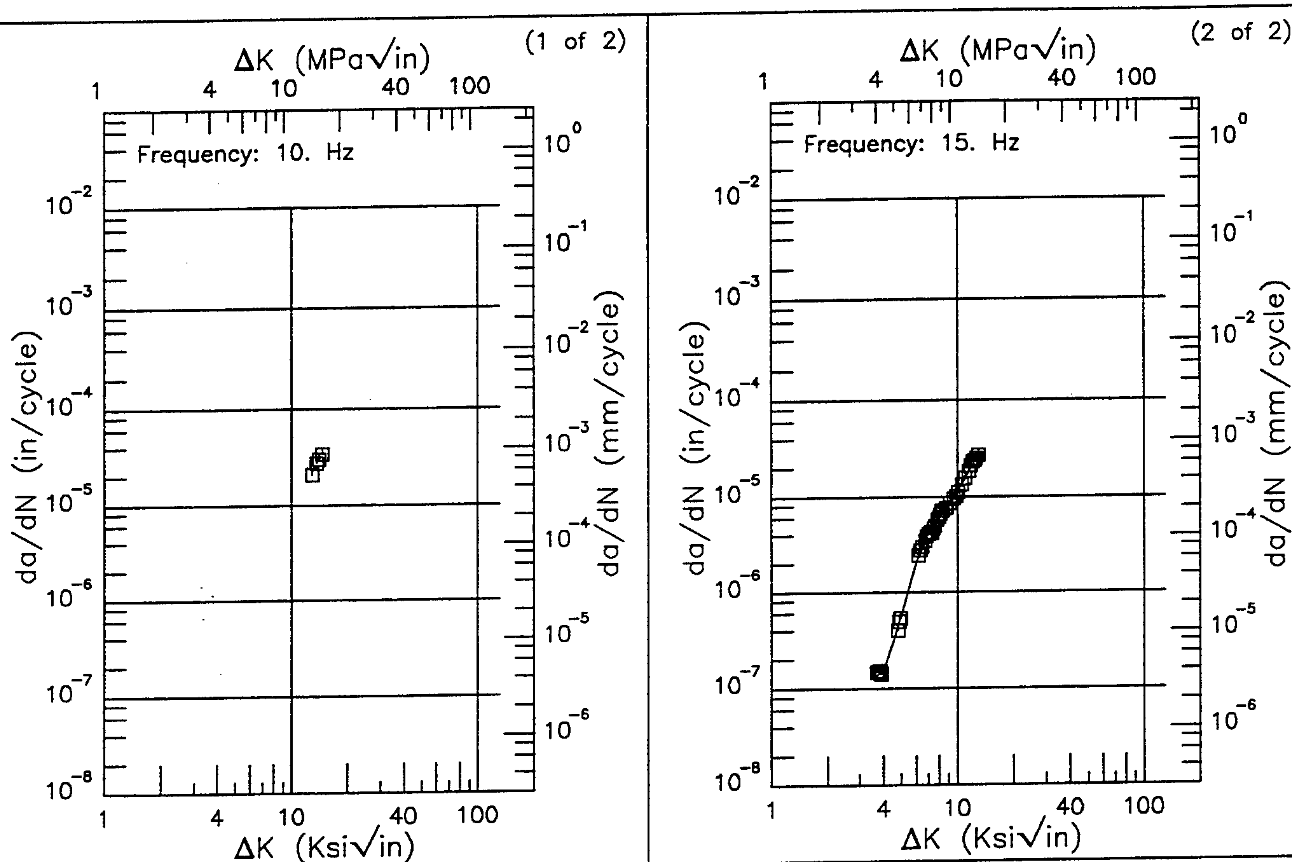
Figure 8.7.3.1.17

7050

F

Condition/Ht: T73511
Form: 1.8 in. Extrusion
Specimen Type: CT
Orientation: T–L
Stress Ratio: 0.33
Environment: H.H.A.; RT

Yield Strength:
Ult. Strength:
Specimen Thk: 0.999 – 1 in.
Specimen Width: 3.805 in.
Ref: AL006;AL004



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.69 (min)	0.137
4.	0.154
5.	0.574
6.	2.09
7.	4.17
8.	6.07
9.	8.17
10.	11.1
12.93 (max)	26.5

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

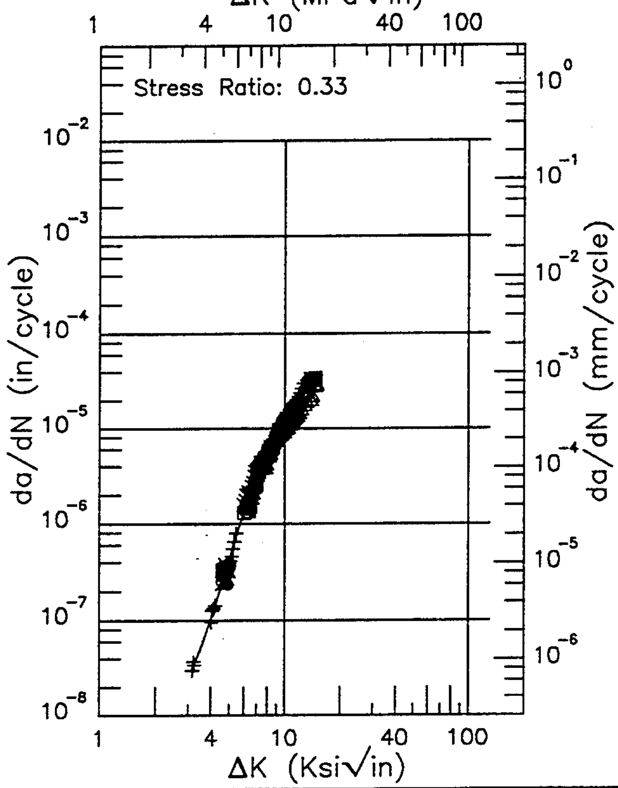
RMS % Error	Life Prediction Ratio Summary
5.15	0. .5 .8 1.25 2.

Figure 8.7.3.1.18

Condition/Ht: T73511
Form: 1.8 in. Extrusion
Specimen Type: CT
Orientation: T–L
Frequency: 10 – 20 Hz
Environment: H.H.A.; RT

Yield Strength:
Ult. Strength:
Specimen Thk: 0.999 – 1.004 in.
Specimen Width: 3.805 in.
Ref: AL006;AL004;AL007

(1 of 2)



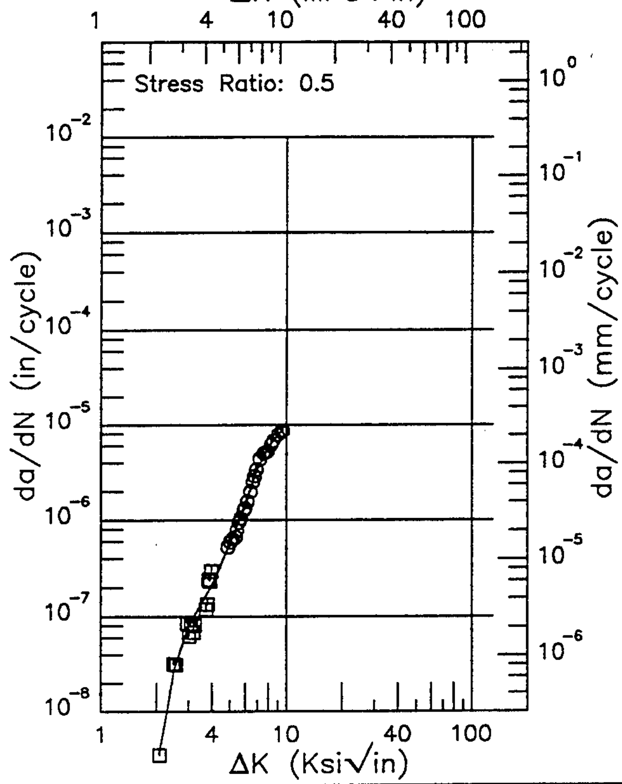
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.16 (min)	0.0306
3.5	0.0485
4.	0.102
5.	0.423
6.	1.34
7.	3.08
8.	5.33
9.	7.85
10.	10.7
13.	24.2
14.96 (max)	30.5

RMS % Error 13.35

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.08 (min)	0.00367
2.5	0.0274
3.	0.0796
3.5	0.136
4.	0.210
5.	0.566
6.	1.51
7.	3.42
8.	5.85
9.	7.87
9.54 (max)	8.81

RMS % Error 15.94

Life Prediction Ratio Summary

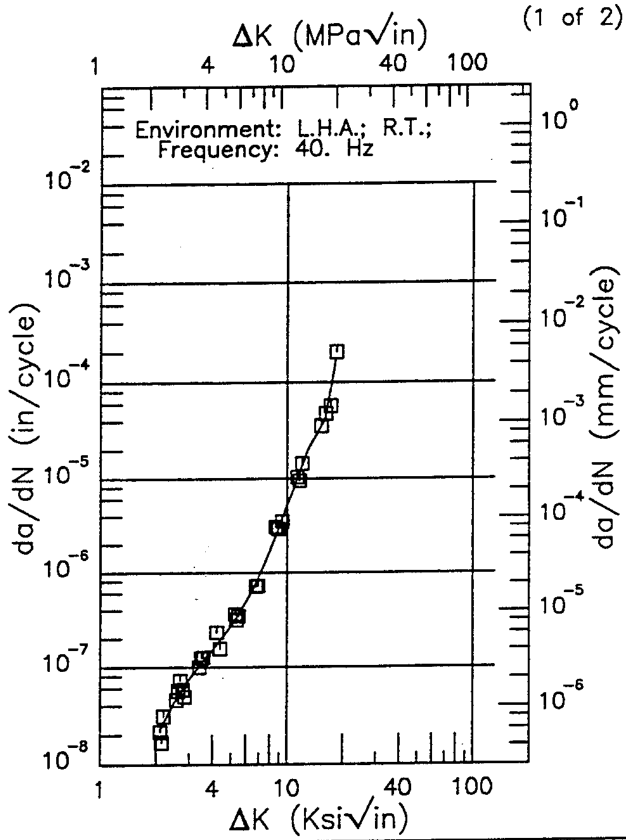
0. .5 .8 1.25 2.

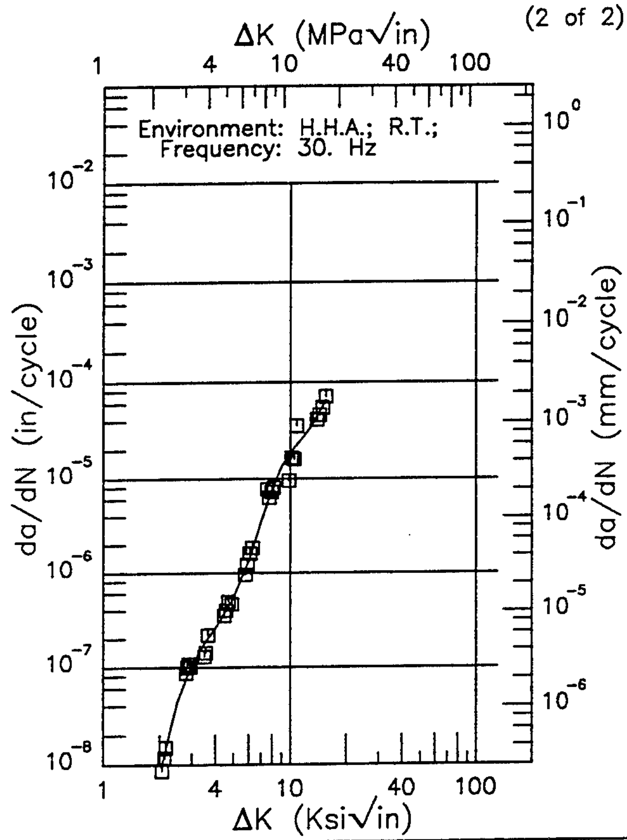
Figure 8.7.3.1.19

EF 7050

Condition/Ht: T73511
Form: 1.8 in. Extrusion
Specimen Type: CT
Orientation: T–L
Stress Ratio: 0.5

Yield Strength:
Ult. Strength:
Specimen Thk: 0.243 – 0.251 in.
Specimen Width: 2.5 in.
Ref: AL006





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.10 (min)	0.0224
2.5	0.0435
3.	0.0749
3.5	0.110
4.	0.152
5.	0.269
6.	0.482
7.	0.897
8.	1.67
9.	3.04
10.	5.33
13.	20.2
16.	42.3
18.27 (max)	177.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.06 (min)	0.00957
2.5	0.0438
3.	0.107
3.5	0.178
4.	0.258
5.	0.534
6.	1.33
7.	3.47
8.	7.66
9.	13.3
10.	18.8
13.	35.4
15.53 (max)	65.8

RMS % Error	Life Prediction Ratio Summary
16.80	0. .5 .8 1.25 2.

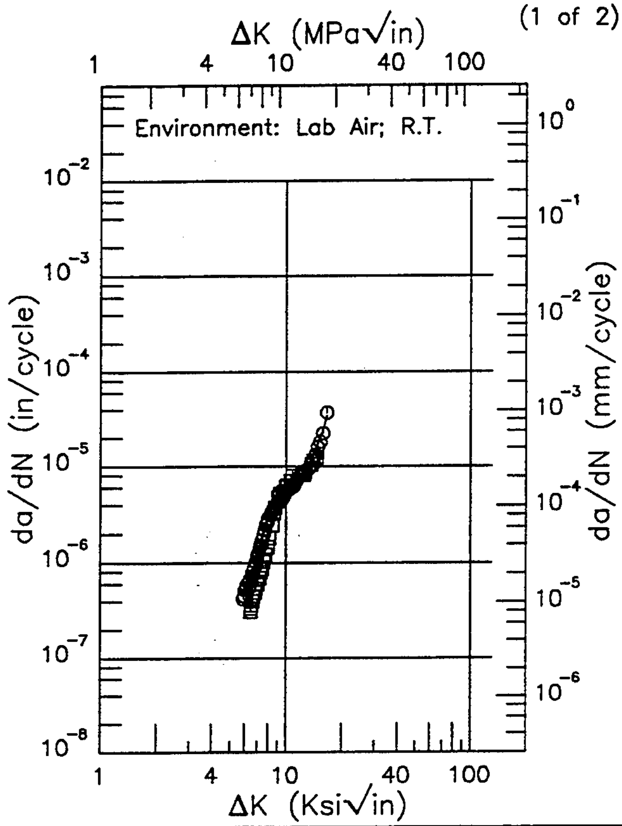
RMS % Error	Life Prediction Ratio Summary
19.62	0. .5 .8 1.25 2.

Figure 8.7.3.1.20

Condition/Ht: T73511–HIGH PURITY
Form: 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.1
Frequency: 30 Hz

Yield Strength: 72.1 ksi
Ult. Strength: 80.3 ksi
Specimen Thk: 0.625 in.
Specimen Width: 2.55 in.
Ref: WA001

(1 of 2)



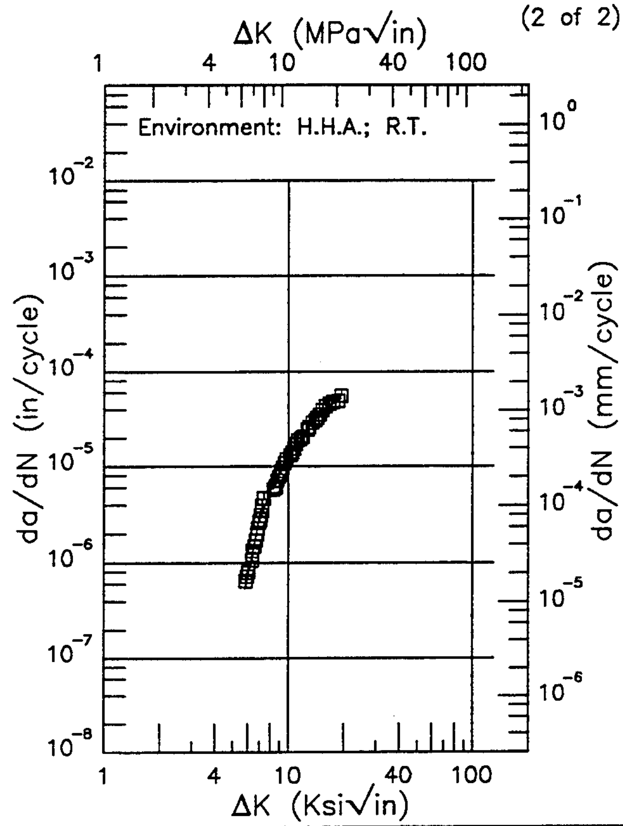
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.87 (min)	0.462
6.	0.472
7.	0.873
8.	2.09
9.	4.25
10.	6.18
13.	8.97
16.	26.8
16.48 (max)	34.5

RMS % Error 22.60

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.85 (min)	0.540
6.	0.733
7.	2.85
8.	5.60
9.	8.42
10.	11.9
13.	26.6
16.	41.3
19.25 (max)	52.2

RMS % Error 7.75

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.7.3.1.21

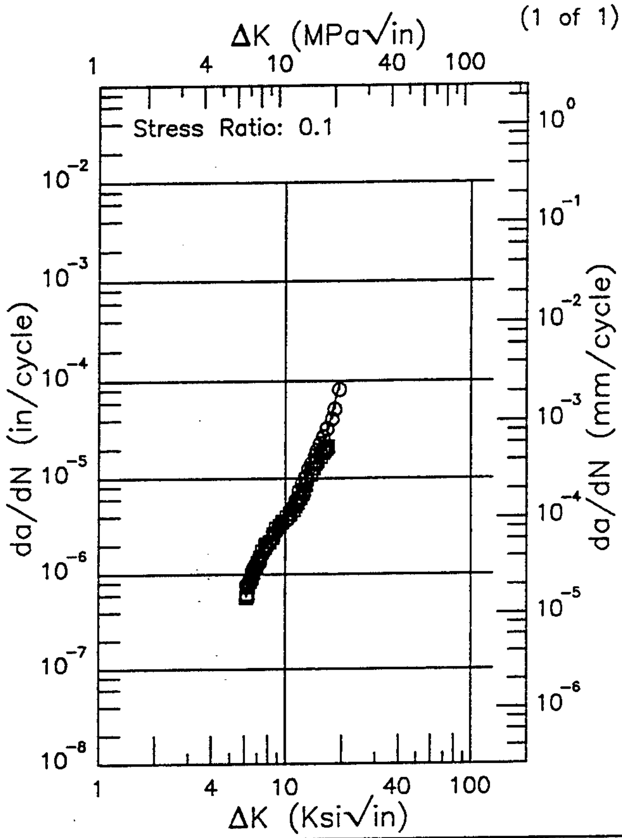
R

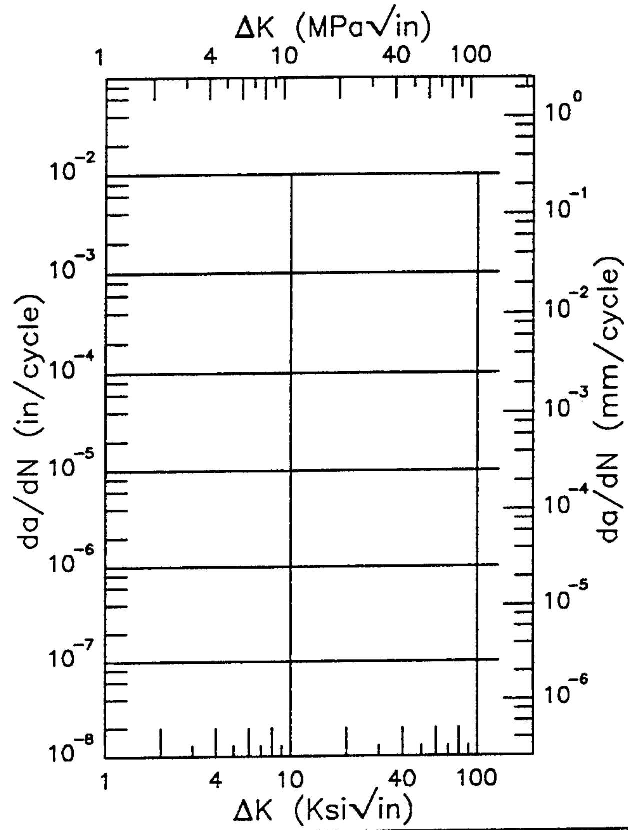
7050

Condition/Ht: T73511–HIGH PURITY
Form: 1.5 in. Extrusion
Specimen Type: CT
Orientation: T–L
Frequency: 30 Hz
Environment: LAB AIR; RT

Yield Strength: 66.6 ksi
Ult. Strength: 75.5 ksi
Specimen Thk: 0.625 in.
Specimen Width: 2.55 in.
Ref: WA001

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.09 (min)	0.626
7.	1.32
8.	2.08
9.	2.83
10.	3.74
13.	9.89
16.	21.7
19.26 (max)	88.1

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
10.97	0. .5 .8 1.25 2.

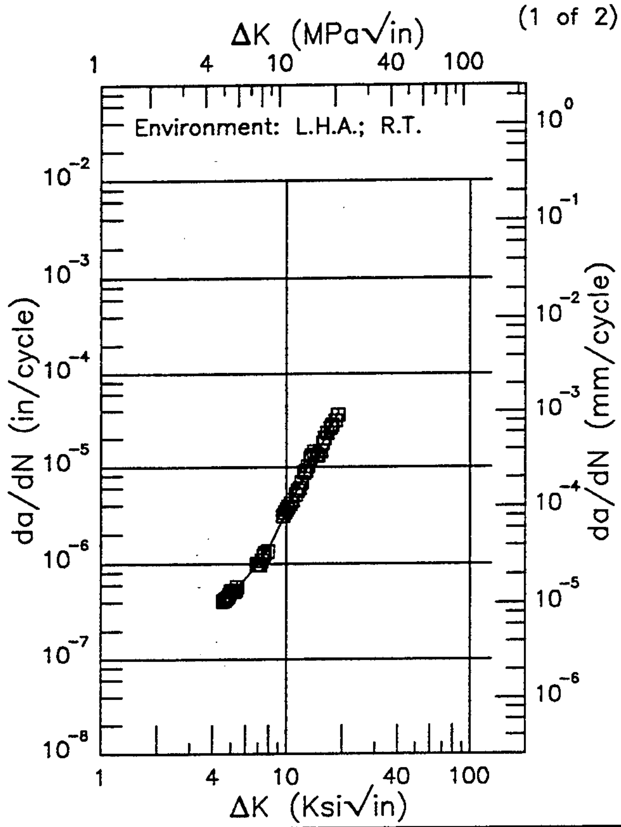
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.7.3.1.22

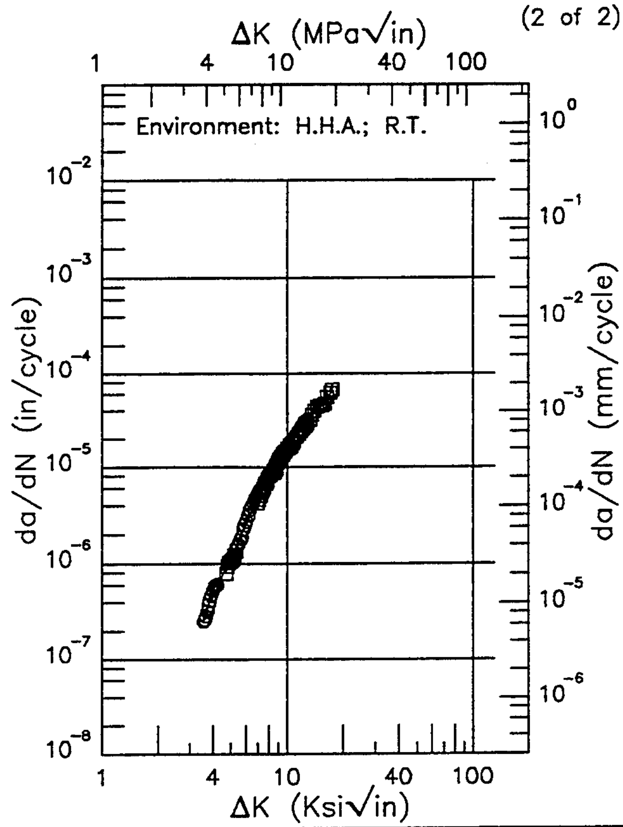
Condition/Ht: T7351X
Form: 0.91 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.33
Frequency: 20 Hz

Yield Strength:
Ult. Strength:
Specimen Thk: 0.899 – 0.9 in.
Specimen Width: 3.1 in.
Ref: AL007

(1 of 2)



(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.55 (min)	0.401
5.	0.491
6.	0.703
7.	0.989
8.	1.45
9.	2.24
10.	3.47
13.	9.73
16.	19.4
18.90 (max)	36.1

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.54 (min)	0.298
4.	0.455
5.	1.14
6.	2.56
7.	4.94
8.	8.20
9.	11.9
10.	16.0
13.	30.7
16.	52.4
17.49 (max)	63.9

RMS % Error	Life Prediction Ratio Summary
5.76	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
8.32	0. .5 .8 1.25 2.

Figure 8.7.3.1.23

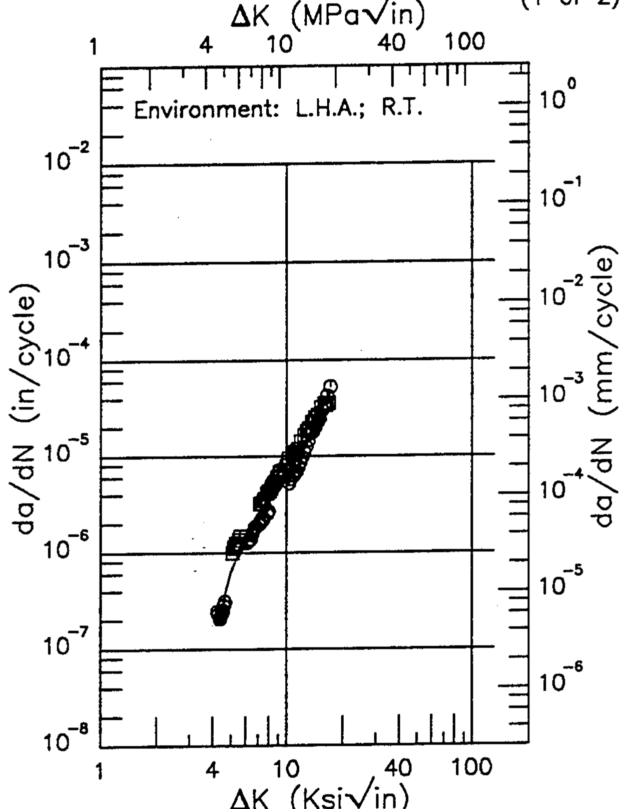
E

7050

Condition/Ht: T7351X
Form: 0.91 in. Extrusion
Specimen Type: CT
Orientation: T–L
Stress Ratio: 0.33
Frequency: 20 Hz

Yield Strength:
Ult. Strength:
Specimen Thk: 0.899 – 0.9 in.
Specimen Width: 3.805 in.
Ref: AL007

(1 of 2)



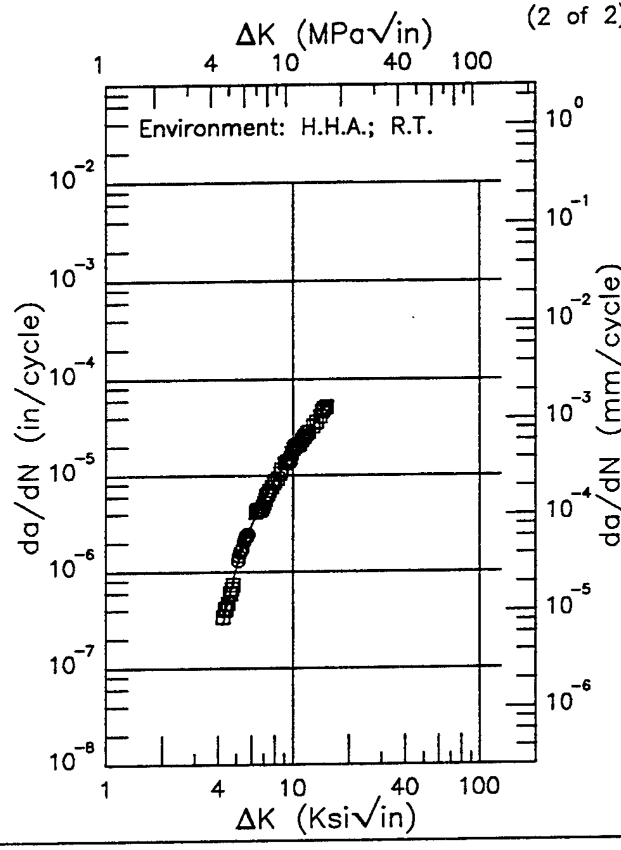
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.22 (min)	0.180
5.	0.627
6.	1.53
7.	2.58
8.	3.73
9.	5.11
10.	6.90
13.	15.9
16.	34.8
17.08 (max)	46.2

RMS % Error 21.66

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.24 (min)	0.283
5.	1.10
6.	3.01
7.	5.52
8.	8.61
9.	12.6
10.	17.4
13.	33.5
15.06 (max)	53.5

RMS % Error 6.80

Life Prediction Ratio Summary

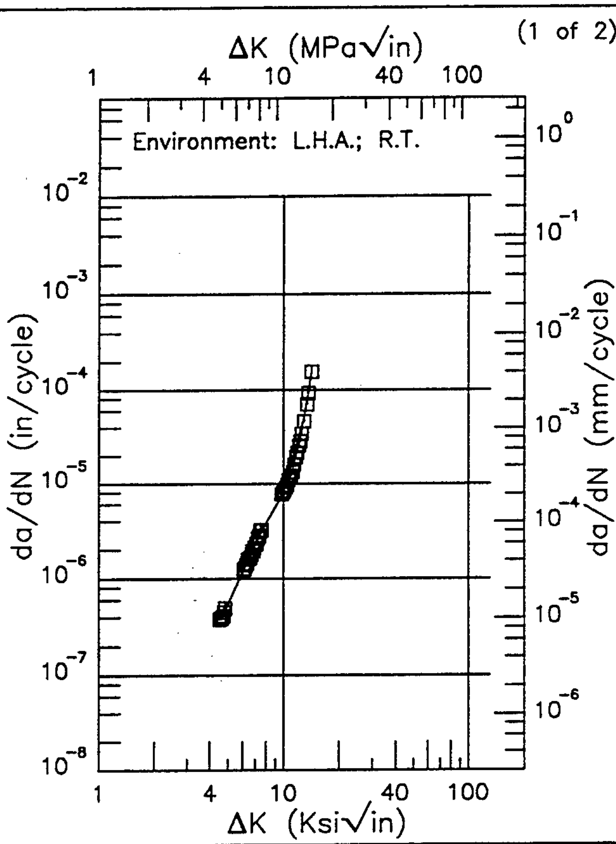
0. .5 .8 1.25 2.

Figure 8.7.3.1.24

Condition/Ht: T7351X
Form: 5 in. Extrusion
Specimen Type: CT
Orientation: T–L
Stress Ratio: 0.33
Frequency: 20 Hz

Yield Strength:
Ult. Strength:
Specimen Thk: 0.99 – 1 in.
Specimen Width: 3.805 in.
Ref: AL007

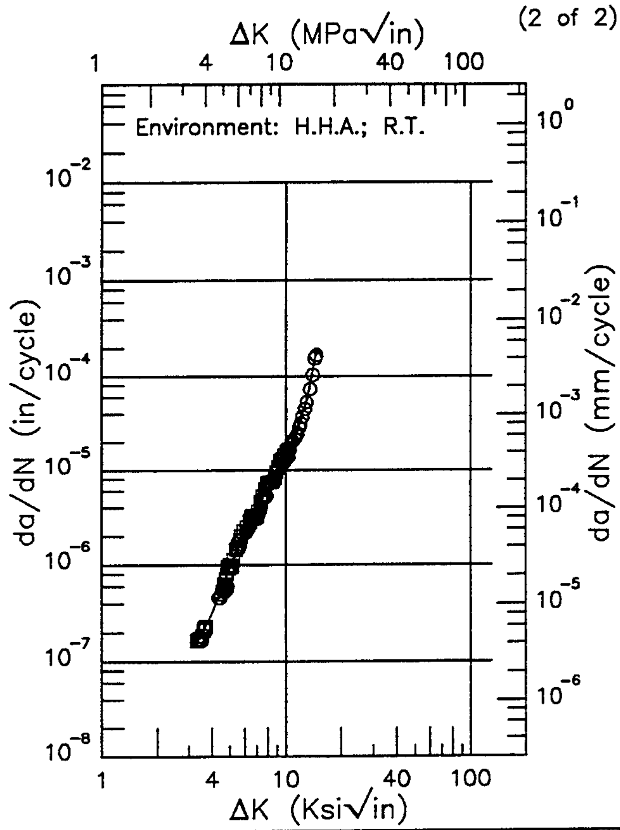
(1 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.51 (min)	0.384
5.	0.542
6.	1.16
7.	2.26
8.	3.77
9.	5.60
10.	8.33
13.	50.5
14.18 (max)	159.

RMS % Error	Life Prediction Ratio Summary
9.77	0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.30 (min)	0.156
3.5	0.189
4.	0.320
5.	0.907
6.	2.12
7.	3.93
8.	6.35
9.	9.62
10.	14.2
13.	54.3
14.58 (max)	187.

RMS % Error	Life Prediction Ratio Summary
9.90	0. .5 .8 1.25 2.

Figure 8.7.3.1.25

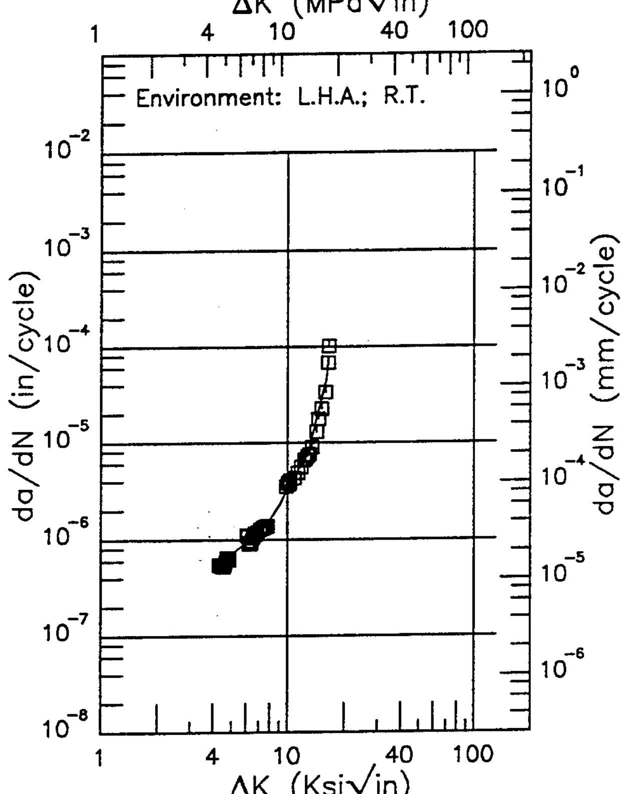
7050

E

Condition/Ht: T7351X
Form: 5 in. Extrusion
Specimen Type: CT
Orientation: S–T
Stress Ratio: 0.33
Frequency: 20 Hz

Yield Strength:
Ult. Strength:
Specimen Thk: 0.998 – 1 in.
Specimen Width: 3.805 in.
Ref: AL007

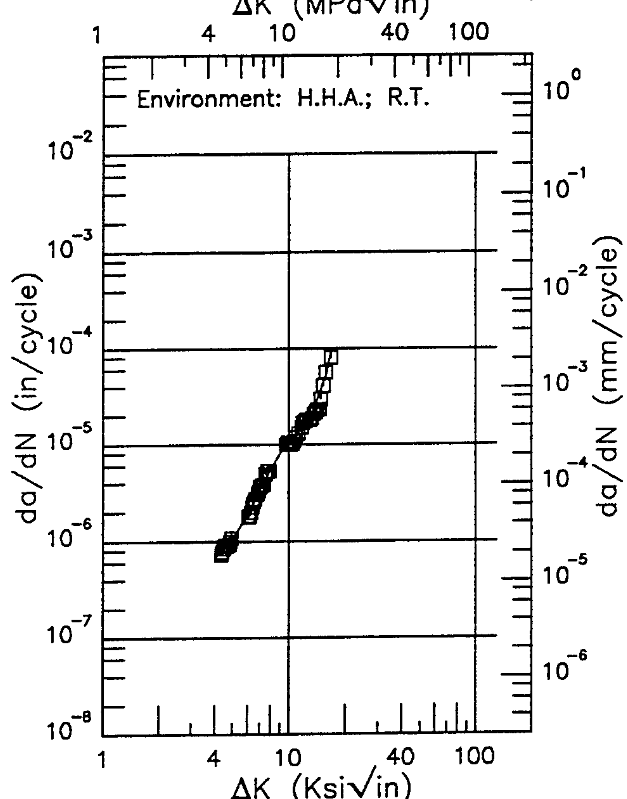
(1 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.31 (min)	0.465
5.	0.697
6.	0.955
7.	1.21
8.	1.60
9.	2.27
10.	3.33
13.	8.42
16.	46.6
16.36 (max)	68.8

RMS % Error	Life Prediction Ratio Summary
11.42	0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.33 (min)	0.820
5.	1.06
6.	1.84
7.	3.27
8.	5.39
9.	8.04
10.	10.8
13.	17.9
16.	56.1
16.72 (max)	87.9

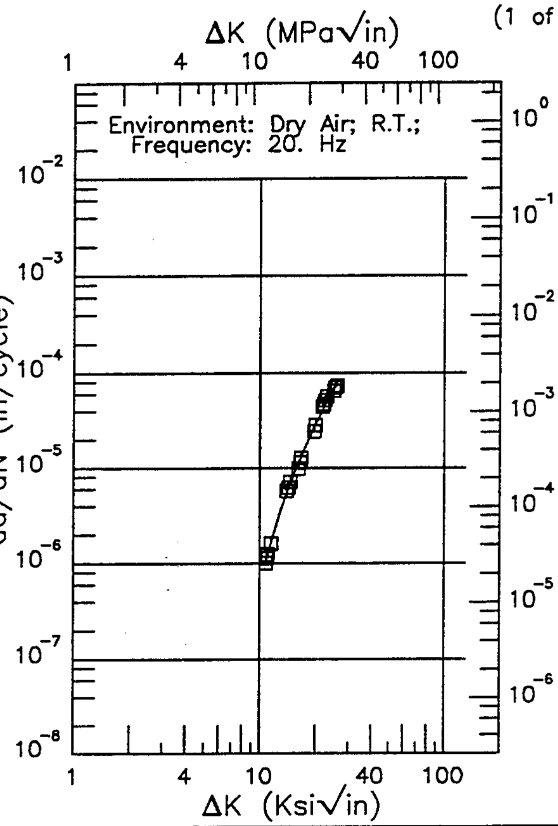
RMS % Error	Life Prediction Ratio Summary
9.40	0. .5 .8 1.25 2.

Figure 8.7.3.1.26

Condition/Ht: T736
Form: 1.5 – 3 in. Forging
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.1

Yield Strength: 63.6 ksi
Ult. Strength: 72.2 ksi
Specimen Thk: 1.002 in.
Specimen Width: 7.4 in.
Ref: 91332;NC002

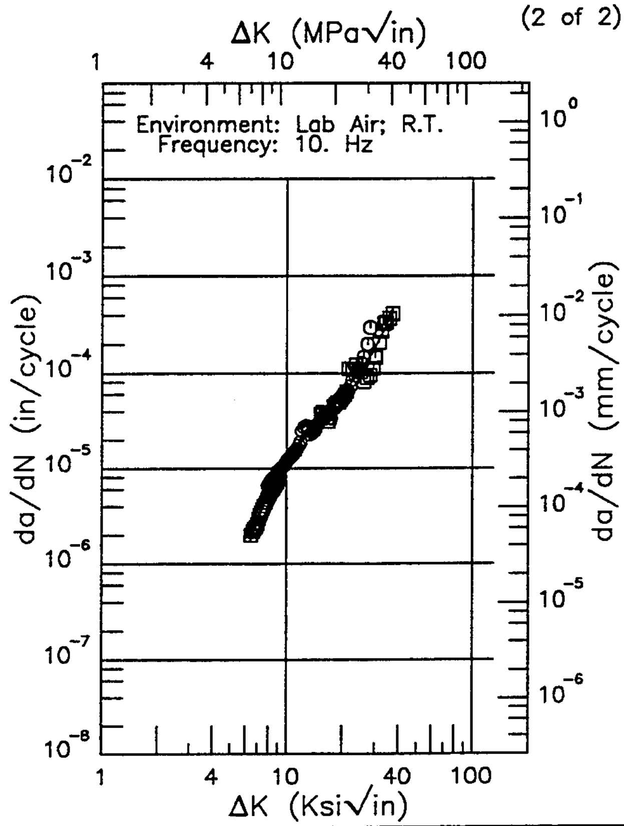
(1 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
10.73 (min)	1.02
13.	3.69
16.	11.1
20.	29.1
25.	70.7
25.91 (max)	81.7

RMS % Error	Life Prediction Ratio Summary
8.32	0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.44 (min)	1.78
7.	2.90
8.	5.53
9.	8.71
10.	12.2
13.	23.0
16.	35.4
20.	59.4
25.	107.
30.	179.
35.	336.
37.11 (max)	473.

RMS % Error	Life Prediction Ratio Summary
17.59	0. .5 .8 1.25 2.

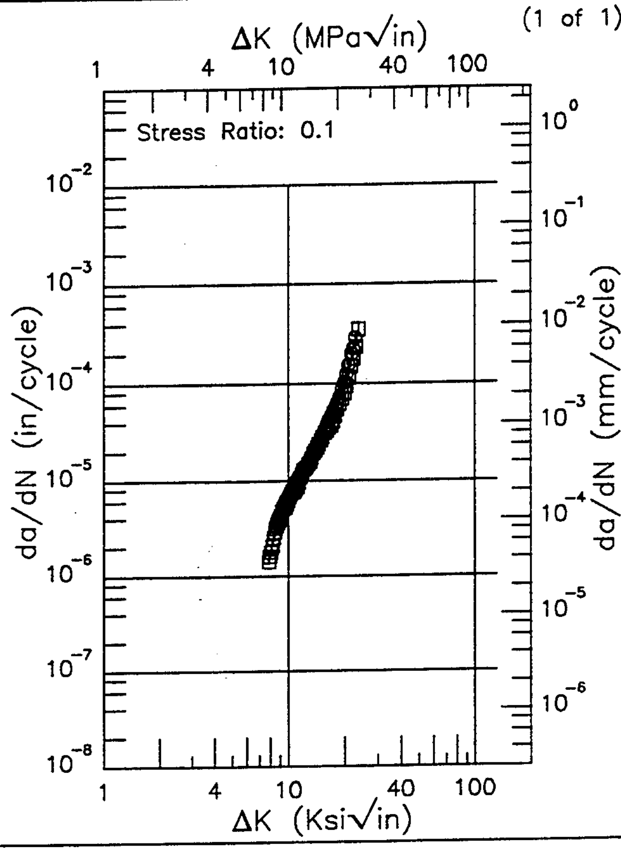
Figure 8.7.3.1.27

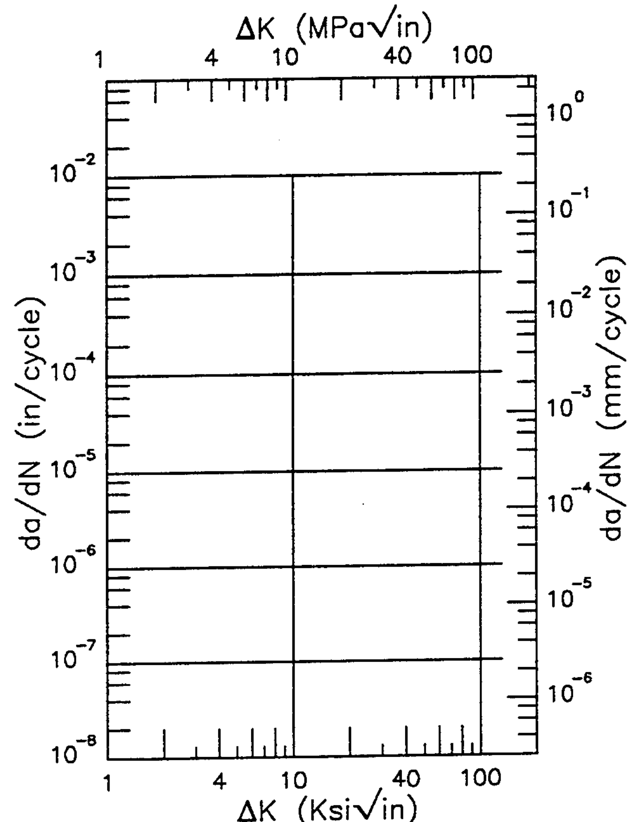
R 7050

Condition/Ht: T736
Form: 3 in. Forging
Specimen Type: CT
Orientation: T–L
Frequency: 10 Hz
Environment: LAB AIR; RT

Yield Strength: 62.2 ksi
Ult. Strength: 71.5 ksi
Specimen Thk: 1.002 in.
Specimen Width: 7.4 in.
Ref: NC002

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
7.83 (min)	1.42
8.	1.75
9.	4.23
10.	6.94
13.	16.7
16.	35.8
20.	98.6
23.63 (max)	346.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
8.82	□ ○ 0. .5 .8 1.25 2.

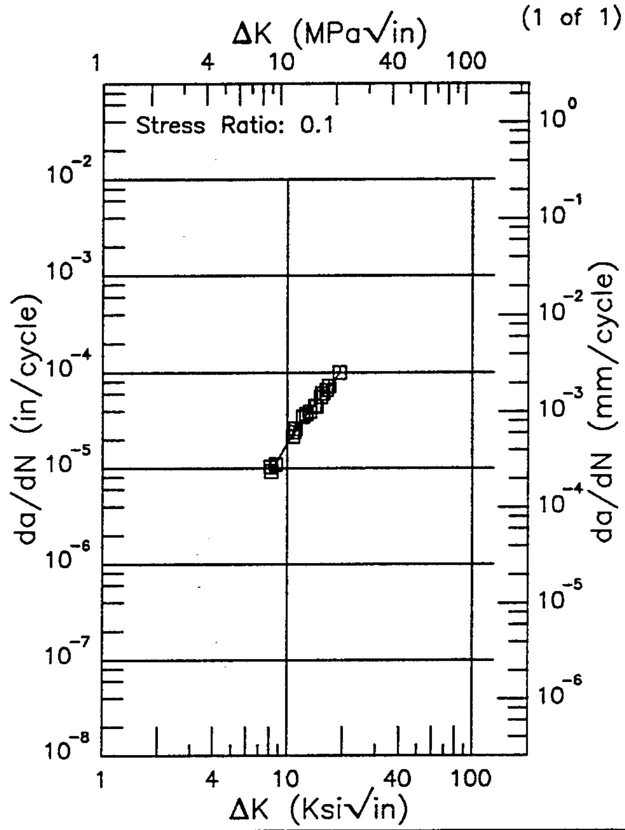
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

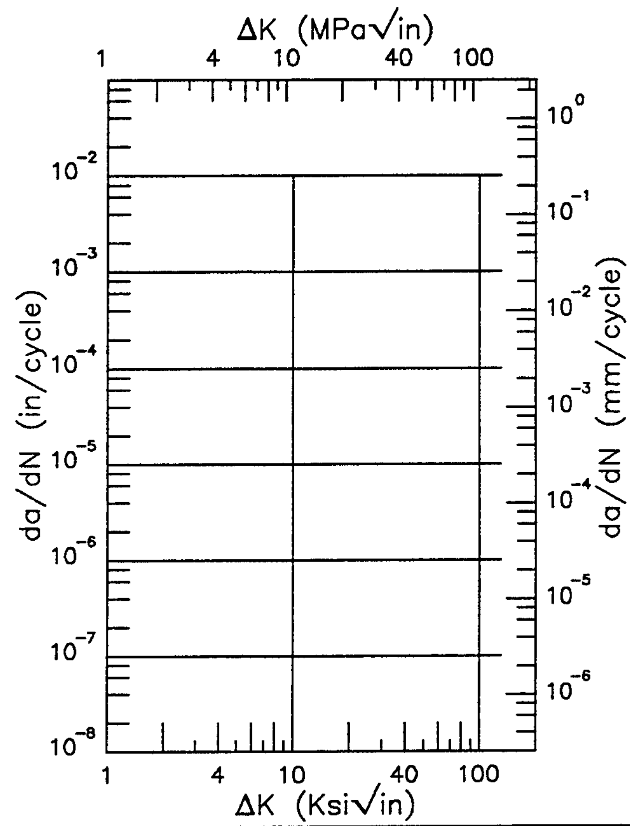
Figure 8.7.3.1.28

Condition/Ht: T736
Form: 1.5 in. Forging
Specimen Type:
Orientation:
Frequency: 1 Hz
Environment: 3.5% NACL; RT

Yield Strength:
Ult. Strength:
Specimen Thk:
Specimen Width:
Ref: 91332

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
8.11 (min)	8.81
9.	12.8
10.	18.1
13.	38.5
16.	63.4
19.11 (max)	99.5

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error 5.91

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

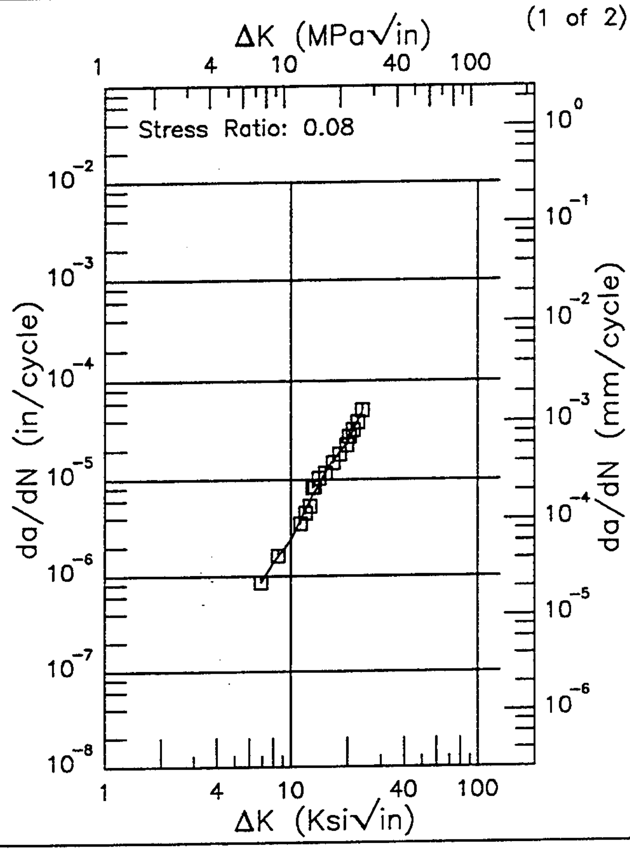
Figure 8.7.3.1.29

R 7050

Condition/Ht: T73651
Form: 4 in. Plate
Specimen Type: CT
Orientation: L–T
Frequency: 6 Hz
Environment: L.H.A.; RT

Yield Strength: 65 ksi
Ult. Strength: 80 ksi
Specimen Thk: 0.992 in.
Specimen Width: 6 in.
Ref: 85837

(1 of 2)



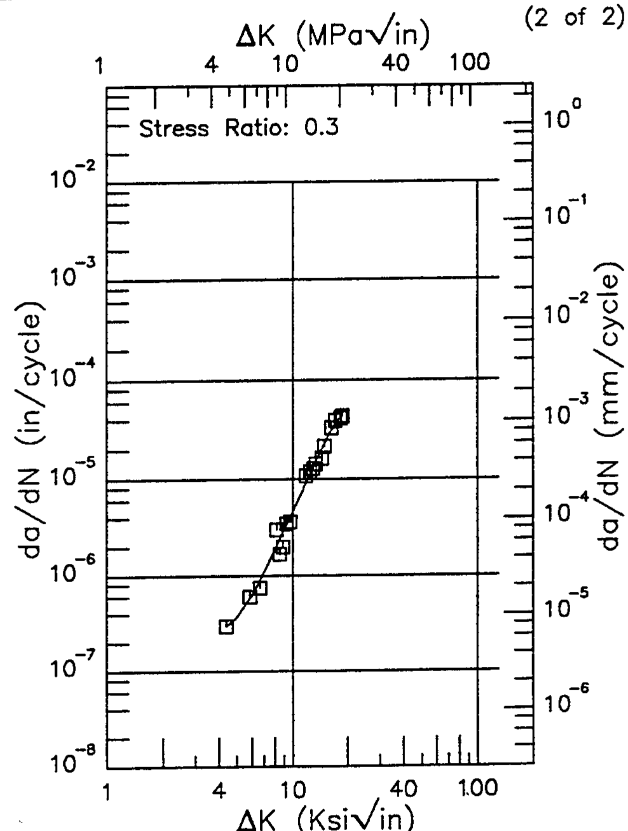
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.89 (min)	0.851
7.	0.905
8.	1.38
9.	1.84
10.	2.41
13.	6.80
16.	14.1
20.	23.9
23.68 (max)	48.5

RMS % Error
8.85

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.39 (min)	0.295
5.	0.368
6.	0.615
7.	1.08
8.	1.86
9.	3.04
10.	4.69
13.	13.3
16.	29.2
18.76 (max)	45.8

RMS % Error
17.97

Life Prediction Ratio Summary

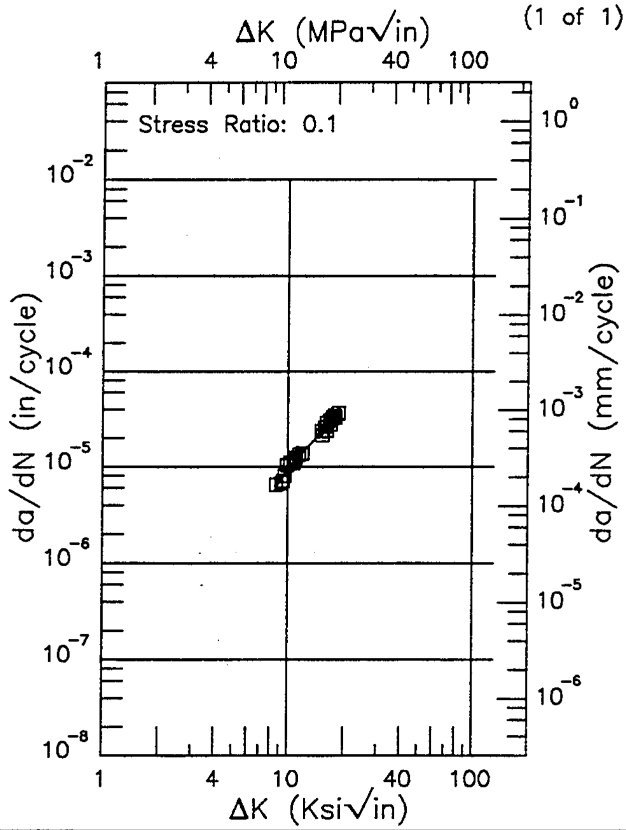
0. .5 .8 1.25 2.

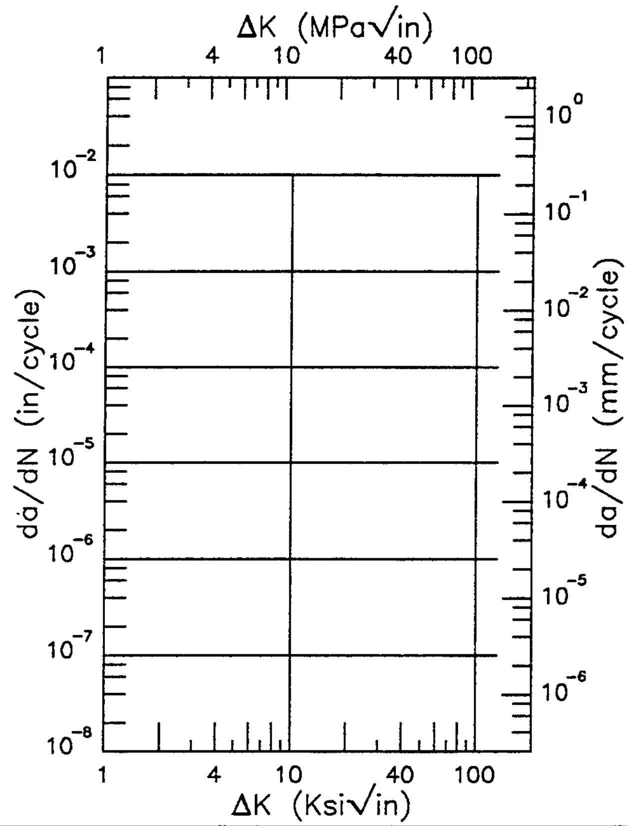
Figure 8.7.3.1.30

Condition/Ht: T73651
Form: 1.13 in. Plate
Specimen Type: CT
Orientation: L–T
Frequency: 20 Hz
Environment: DRY AIR; RT

Yield Strength:
Ult. Strength:
Specimen Thk:
Specimen Width:
Ref: 91332

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
8.61 (min)	5.96
9.	6.99
10.	9.52
13.	16.6
16.	26.3
18.51 (max)	36.1

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
6.18	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.7.3.1.31

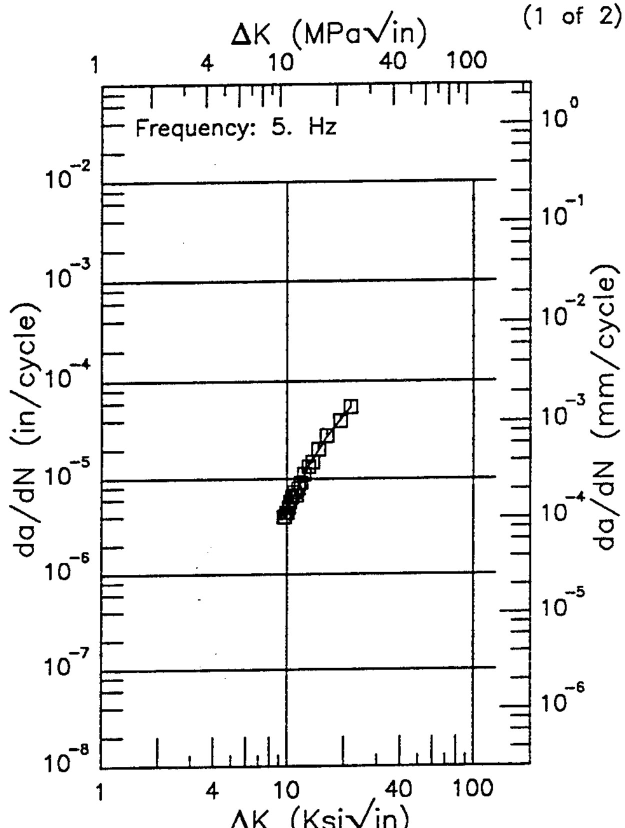
7050

F

Condition/Ht: T73651
Form: 1 in. Plate
Specimen Type: CT
Orientation: L—T
Stress Ratio: 0.1
Environment: LAB AIR; RT

Yield Strength: 70 ksi
Ult. Strength: 80.5 ksi
Specimen Thk: 0.75 in.
Specimen Width: 1.5 in.
Ref: 88174

(1 of 2)



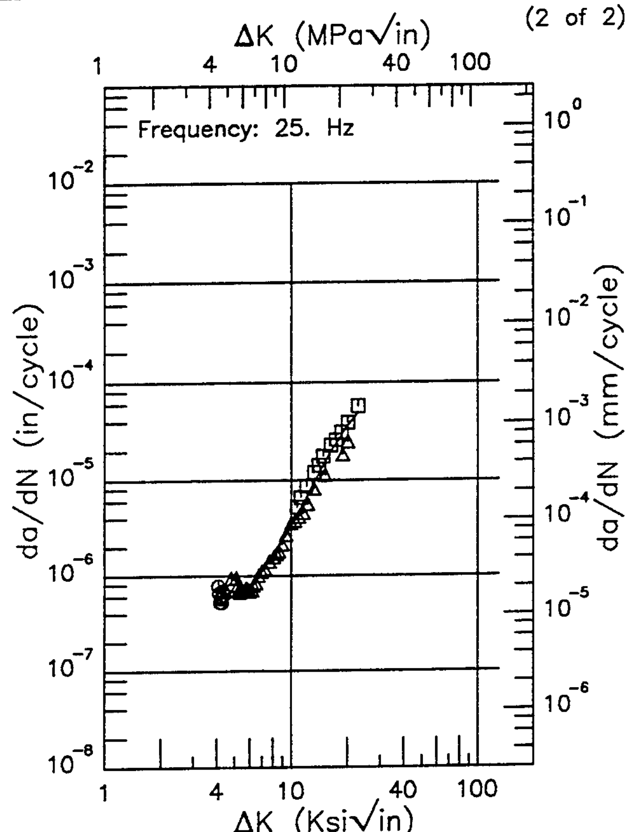
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
9.58 (min)	3.96
10.	4.67
13.	13.2
16.	26.4
20.	44.9
21.56 (max)	54.0

RMS % Error: 4.67

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.07 (min)	0.759
5.	0.678
6.	0.809
7.	1.11
8.	1.59
9.	2.31
10.	3.34
13.	8.79
16.	18.5
20.	36.3
22.74 (max)	48.6

RMS % Error: 18.18

Life Prediction Ratio Summary

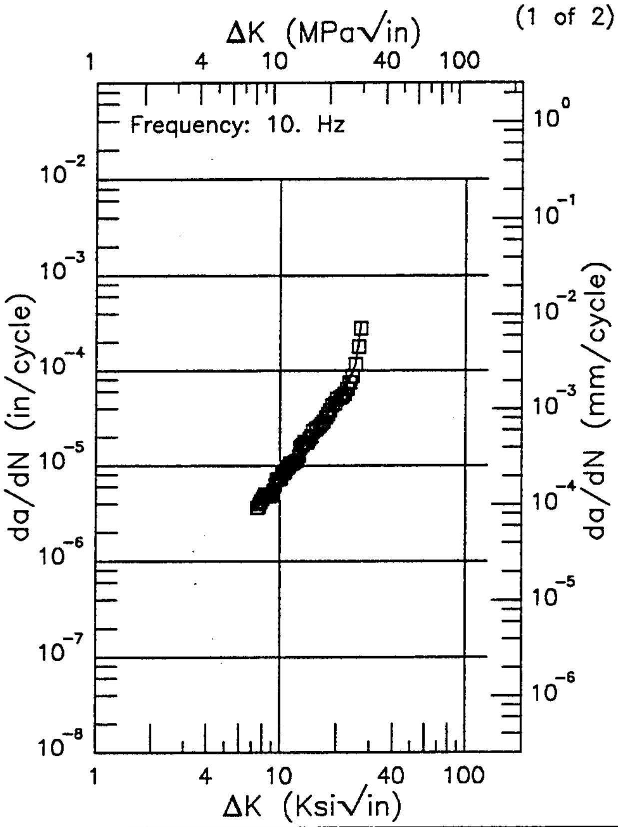
0. .5 .8 1.25 2.

Figure 8.7.3.1.32

Condition/Ht: T73651
Form: 3.15 in. Plate
Specimen Type: CT
Orientation: L-T
Stress Ratio: 0.1
Environment: LAB AIR; RT

Yield Strength: 65.6 ksi
Ult. Strength: 76.6 ksi
Specimen Thk: 1.003 – 1.005 in.
Specimen Width: 7.4 in.
Ref: NC002

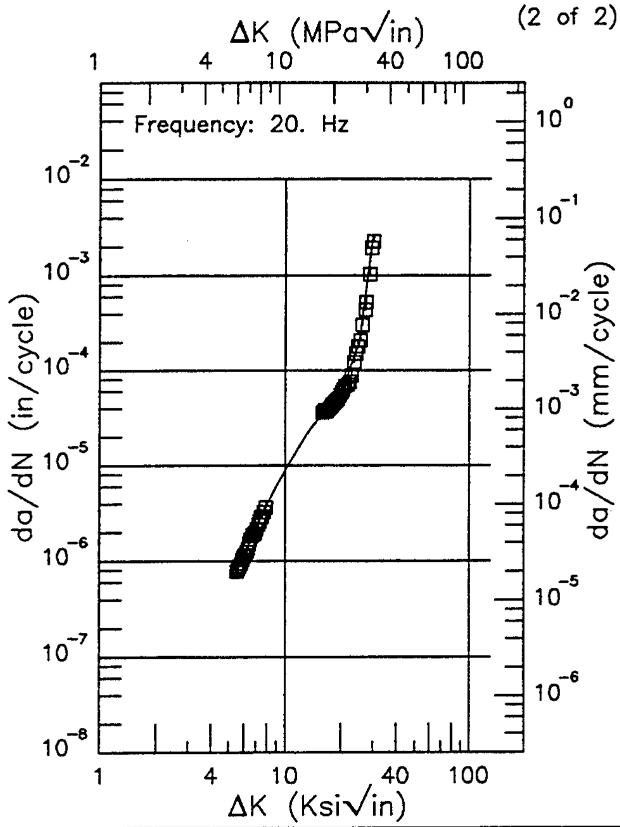
(1 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
7.48 (min)	3.70
8.	4.22
9.	5.53
10.	7.23
13.	14.7
16.	25.7
20.	46.5
25.	111.
26.80 (max)	285.

RMS % Error	Life Prediction Ratio Summary
6.67	0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.49 (min)	0.727
6.	1.11
7.	2.21
8.	3.86
9.	6.12
10.	9.00
13.	20.8
16.	35.4
20.	56.8
25.	192.
29.97 (max)	2692.

RMS % Error	Life Prediction Ratio Summary
9.33	0. .5 .8 1.25 2.

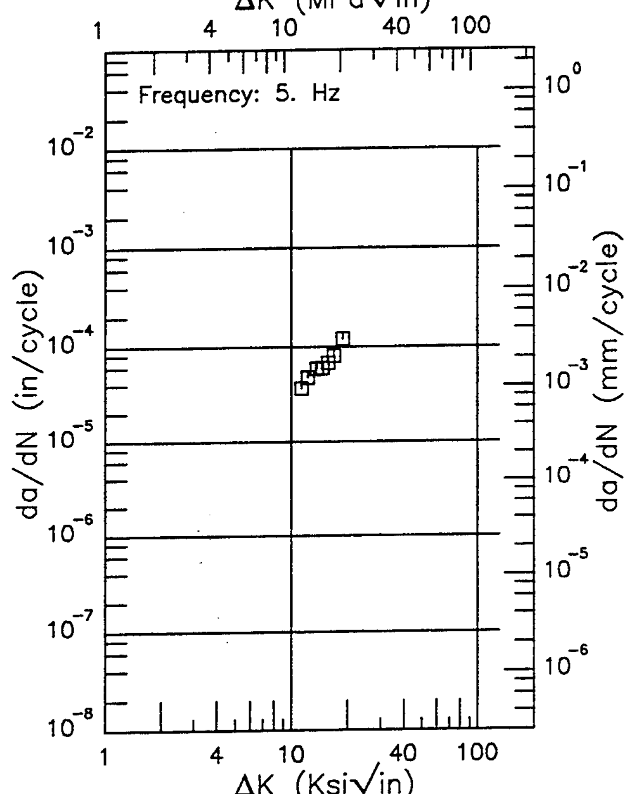
Figure 8.7.3.1.33

F 7050

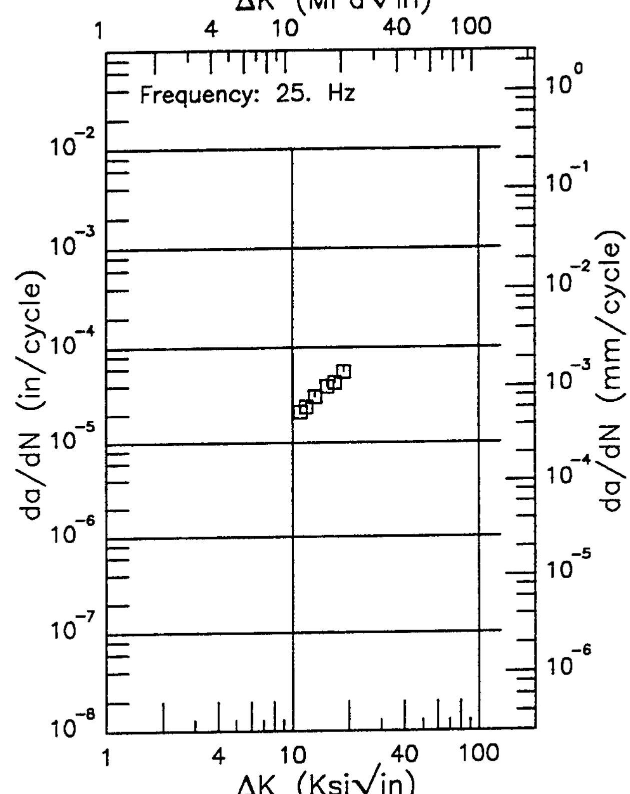
Condition/Ht: T73651
Form: 1 in. Plate
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.1
Environment: 3.5% NACL; RT

Yield Strength: 70 ksi
Ult. Strength: 80.5 ksi
Specimen Thk: 0.75 in.
Specimen Width: 1.5 in.
Ref: 88174

(1 of 2)



(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

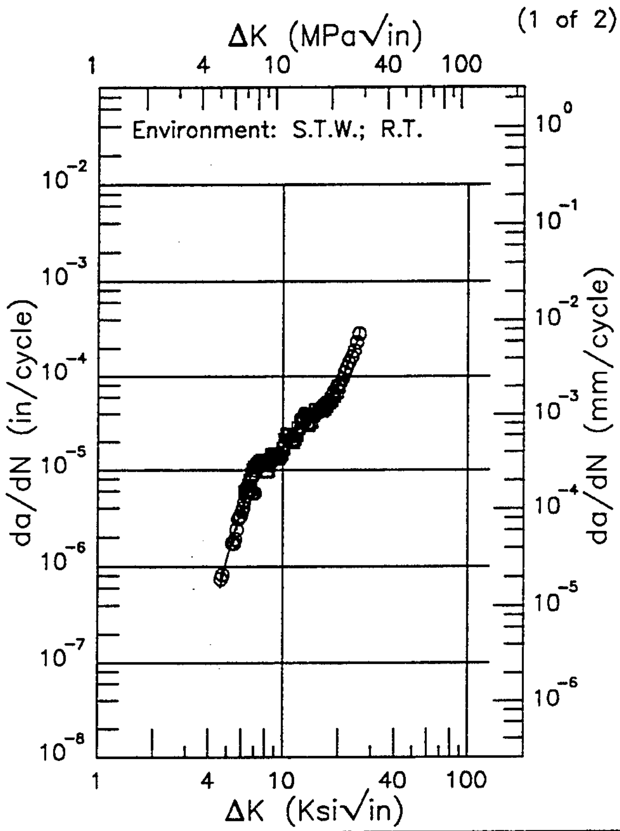
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.7.3.1.34

Condition/Ht: T73651
Form: 3.15 in. Plate
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.1
Frequency: 1 – 10 Hz

Yield Strength: 65.6 ksi
Ult. Strength: 76.6 ksi
Specimen Thk: 1.004 – 1.007 in.
Specimen Width: 7.4 in.
Ref: NC002

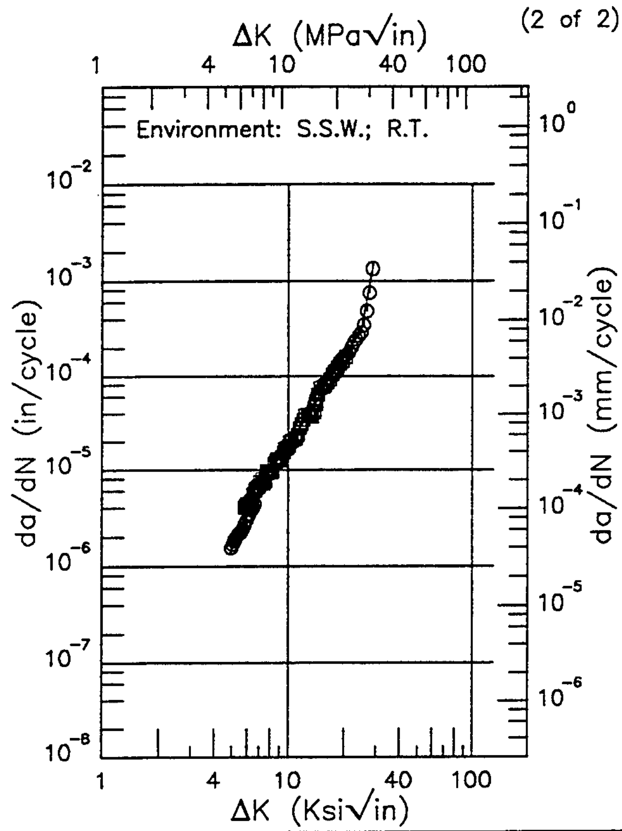


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.63 (min)	0.610
5.	1.20
6.	3.94
7.	7.56
8.	11.2
9.	14.6
10.	18.1
13.	31.3
16.	45.8
20.	78.3
25.	234.
25.70 (max)	270.

RMS % Error 14.03

Life Prediction Ratio Summary

0. .5 .8 1.25 2.



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.93 (min)	1.38
5.	1.49
6.	3.57
7.	6.35
8.	9.69
9.	13.6
10.	18.2
13.	40.2
16.	83.6
20.	164.
25.	317.
28.53 (max)	1290.

RMS % Error 9.40

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.7.3.1.35

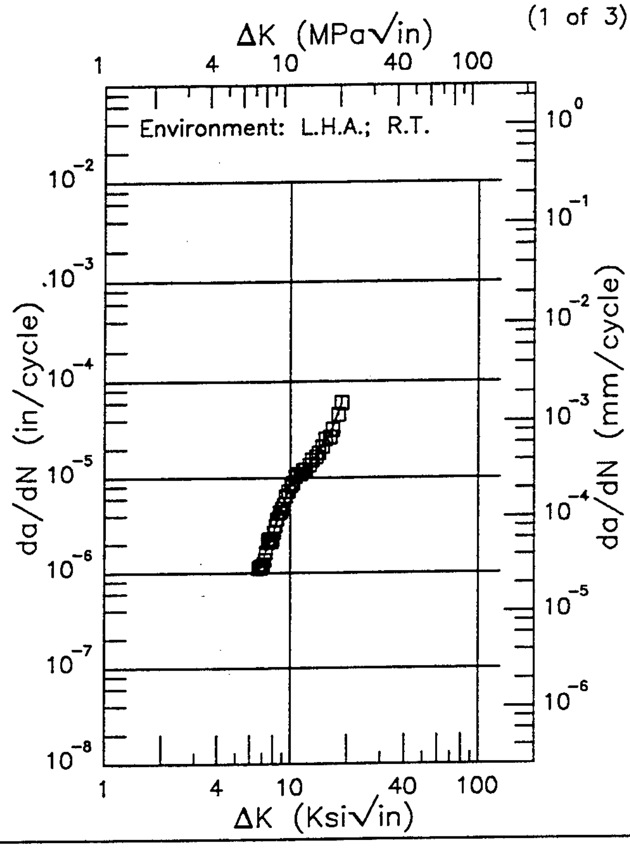
E

7050

Condition/Ht: T73651
Form: 6 in. Plate
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.33
Frequency: 18.3 Hz

Yield Strength: 60.9 ksi
Ult. Strength: 69.7 ksi
Specimen Thk: 0.998 – 1 in.
Specimen Width: 3.801 – 3.805 in.
Ref: AL013

(1 of 3)



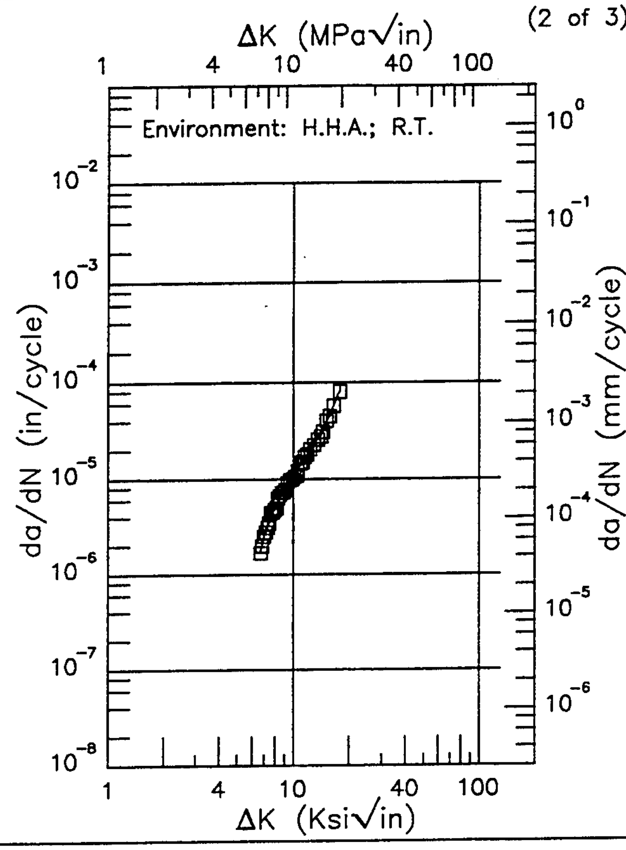
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.65 (min)	1.05
7.	1.27
8.	2.56
9.	5.04
10.	8.06
13.	15.0
16.	27.2
18.65 (max)	59.9

RMS % Error: 6.60

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.66 (min)	1.75
7.	2.49
8.	5.11
9.	7.93
10.	10.8
13.	22.9
16.	48.5
17.78 (max)	81.0

RMS % Error: 5.33

Life Prediction Ratio Summary

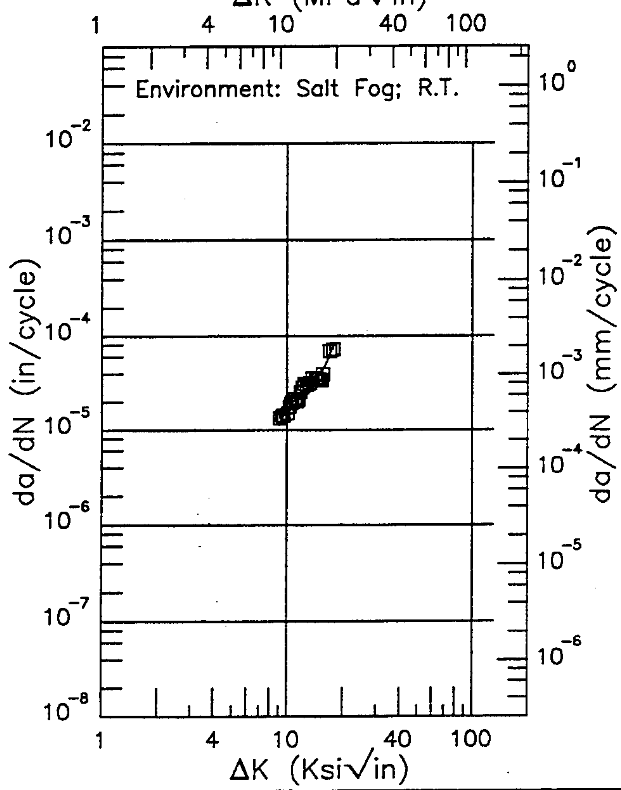
0. .5 .8 1.25 2.

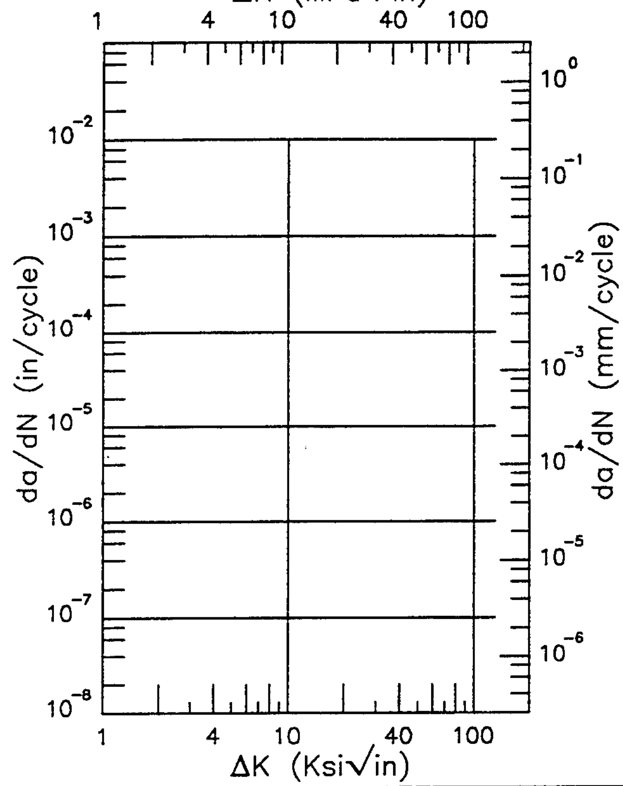
Figure 8.7.3.1.36

Condition/Ht: T73651
Form: 6 in. Plate
Specimen Type: CT
Orientation: L-T
Stress Ratio: 0.33
Frequency: 18.3 Hz

Yield Strength: 60.9 ksi
Ult. Strength: 69.7 ksi
Specimen Thk: 0.998 – 1 in.
Specimen Width: 3.801 – 3.805 in.
Ref: AL013

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
9.09 (min)	11.4
10.	16.8
13.	28.8
16.	47.7
17.64 (max)	75.4

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
9.87	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

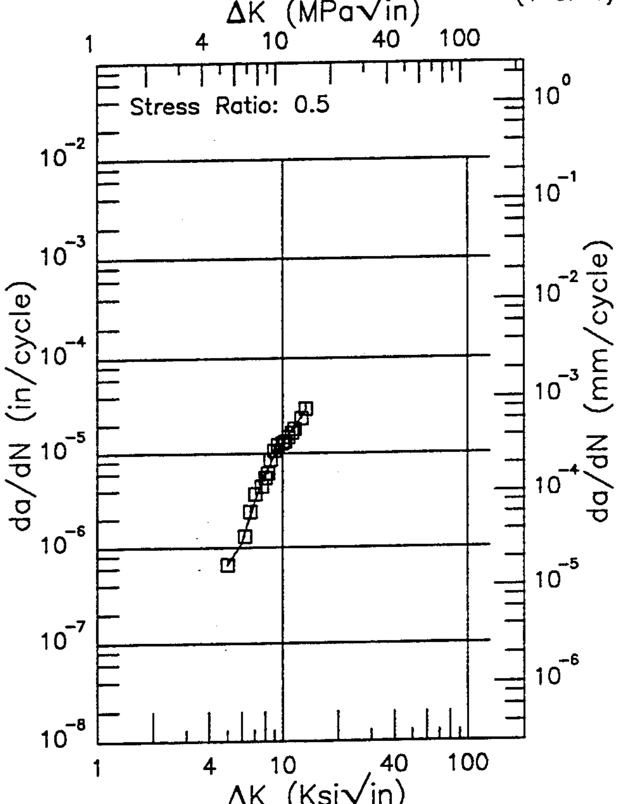
Figure 8.7.3.1.36 (Concluded)

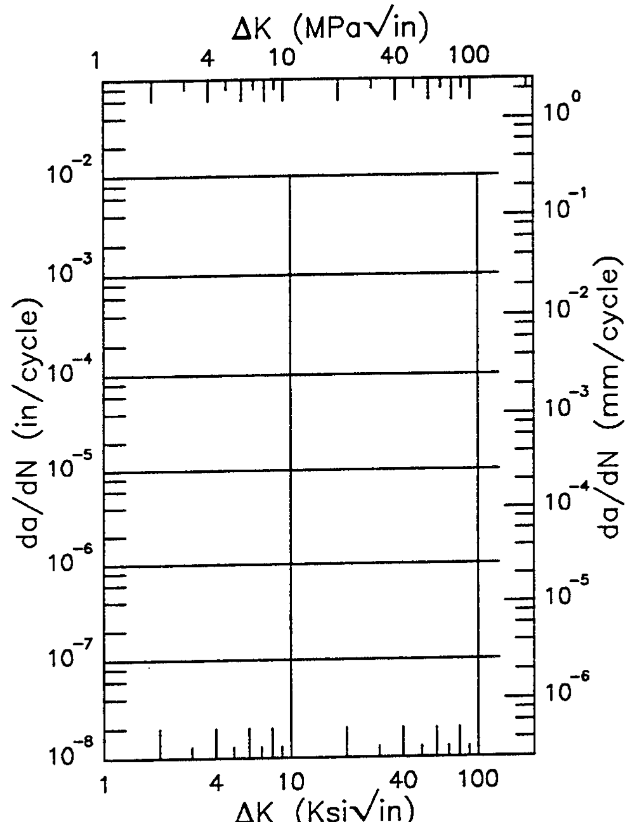
R — 7050

Condition/Ht: T73651
Form: 4 in. Plate
Specimen Type: CT
Orientation: L–T
Frequency: 6 Hz
Environment: L.H.A.; RT

Yield Strength: 65 ksi
Ult. Strength: 80 ksi
Specimen Thk: 0.993 in.
Specimen Width: 6 in.
Ref: 85837

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.01 (min)	0.648
6.	1.11
7.	2.98
8.	6.08
9.	9.58
10.	13.0
13.	26.1
13.34 (max)	29.8

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
8.22	0. .5 .8 1.25 2.

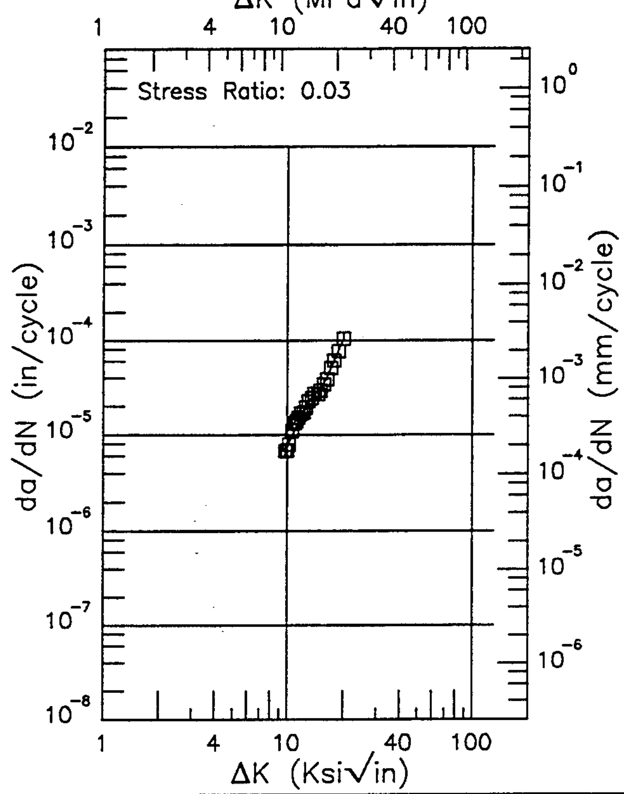
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

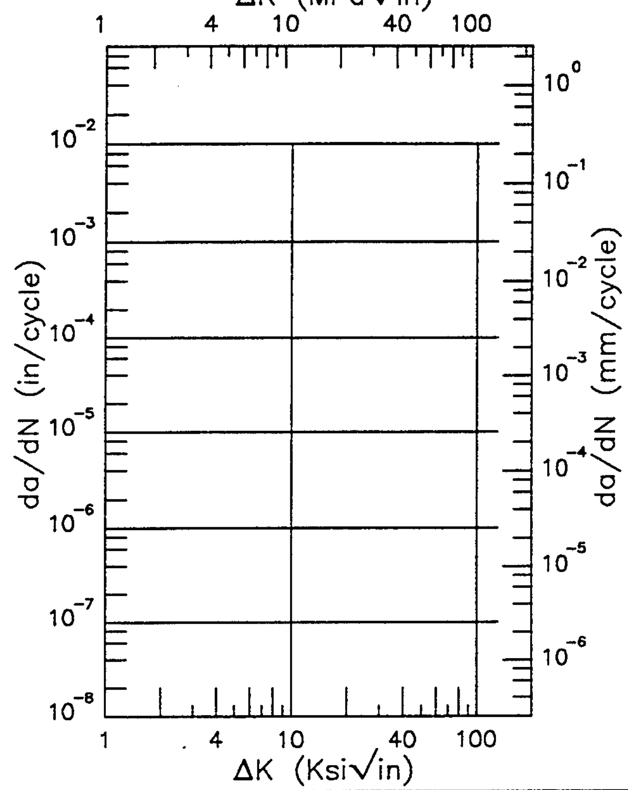
Figure 8.7.3.1.37

Condition/Ht: T73651
Form: 6 in. Plate
Specimen Type: CT
Orientation: T–L
Frequency: 18.3 Hz
Environment: SALT FOG; RT

Yield Strength: 59.1 ksi
Ult. Strength: 70.5 ksi
Specimen Thk: 1 in.
Specimen Width: 3.801 in.
Ref: AL013

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
9.67 (min)	6.08
10.	7.56
13.	21.7
16.	36.8
20.	102.
20.06 (max)	103.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
9.00	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

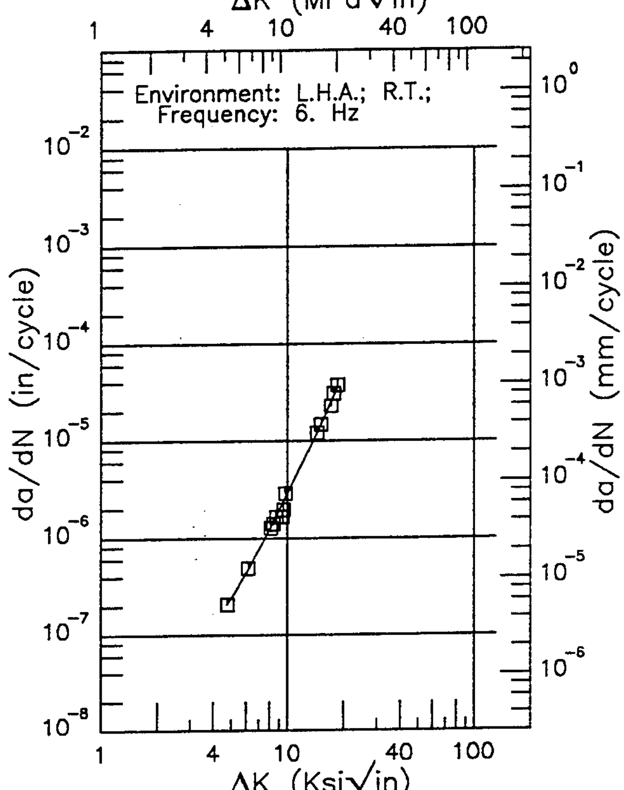
Figure 8.7.3.1.38

EF 7050

Condition/Ht: T73651
Form: 4 in. Plate
Specimen Type: CT
Orientation: T–L
Stress Ratio: 0.08

Yield Strength: 65 – 66 ksi
Ult. Strength: 76 – 80 ksi
Specimen Thk: 0.99 – 0.993 in.
Specimen Width: 6 in.
Ref: 85837;88579

(1 of 2)



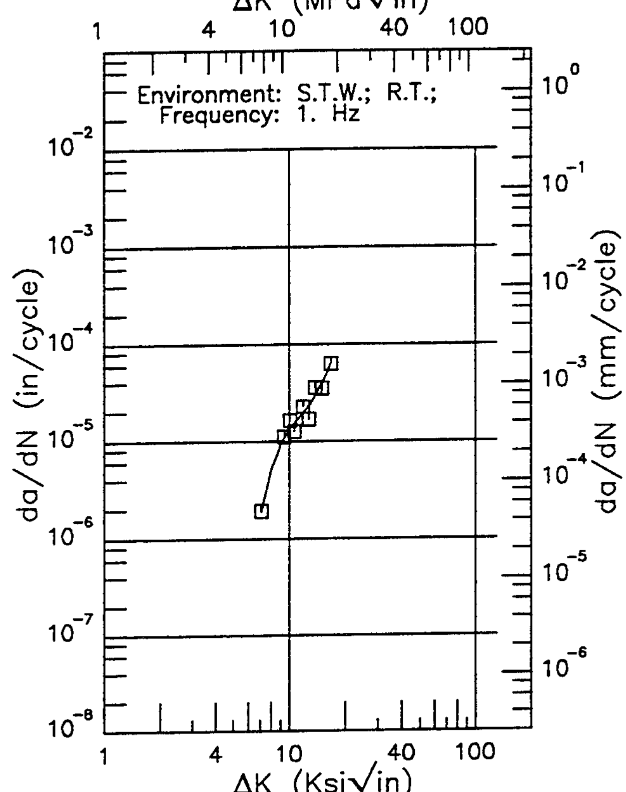
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.75 (min)	0.208
5.	0.242
6.	0.438
7.	0.756
8.	1.24
9.	1.95
10.	2.93
13.	7.98
16.	18.4
18.39 (max)	35.1

RMS % Error 10.12

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
7.08 (min)	1.92
8.	5.07
9.	9.34
10.	13.3
13.	23.9
16.	49.6
16.70 (max)	62.9

RMS % Error 15.90

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.7.3.1.39

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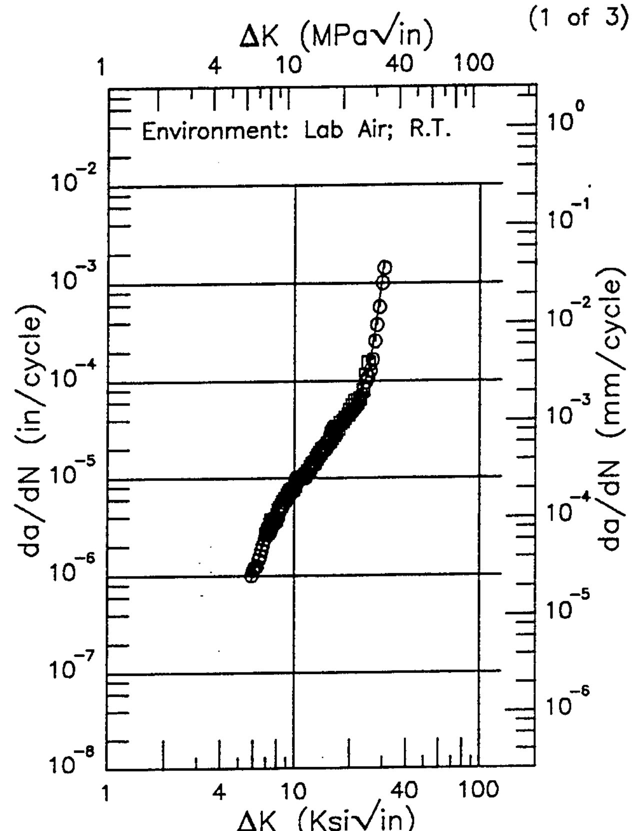
E

7050

Condition/Ht: T73651
Form: 3.15 in. Plate
Specimen Type: CT
Orientation: T–L
Stress Ratio: 0.1
Frequency: 1 – 10 Hz

Yield Strength: 69 ksi
Ult. Strength: 77.2 ksi
Specimen Thk: 1.002 – 1.005 in.
Specimen Width: 7.4 in.
Ref: NC002

(1 of 3)



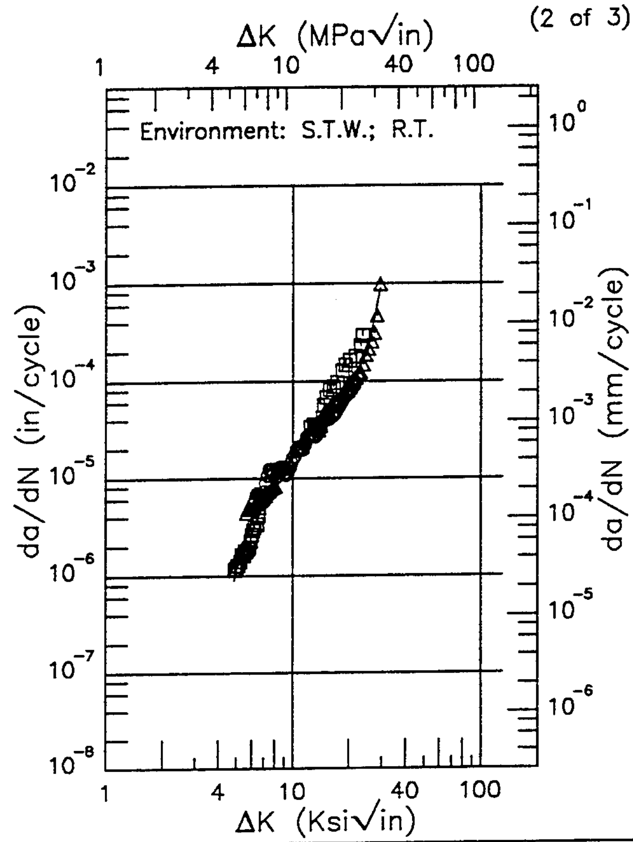
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.86 (min)	0.889
6.	1.04
7.	2.45
8.	4.21
9.	6.09
10.	8.05
13.	15.8
16.	28.1
20.	47.1
25.	123.
30.	1240.
30.34 (max)	1554.

RMS % Error 9.06

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.87 (min)	0.904
5.	1.12
6.	3.53
7.	6.71
8.	9.92
9.	13.0
10.	16.2
13.	30.6
16.	54.5
20.	97.0
25.	191.
29.35 (max)	905.

RMS % Error 25.14

Life Prediction Ratio Summary

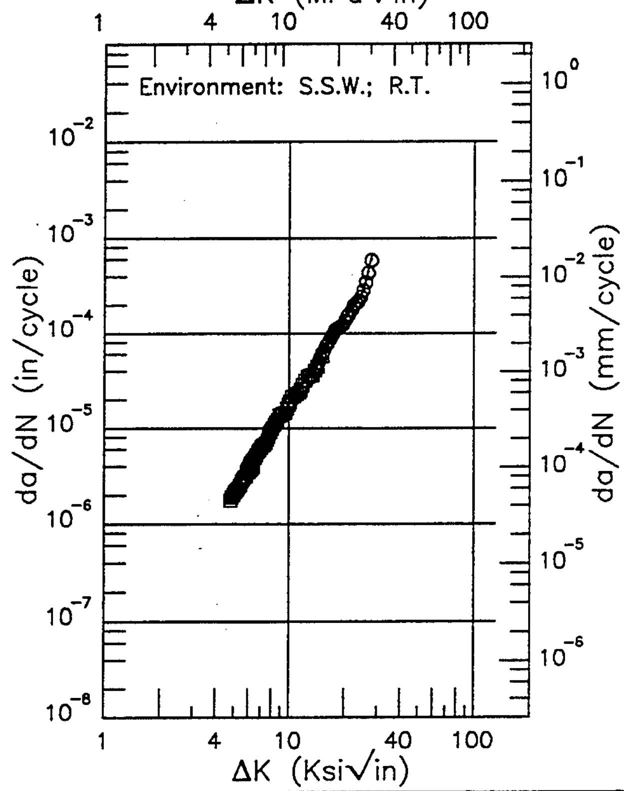
0. .5 .8 1.25 2.

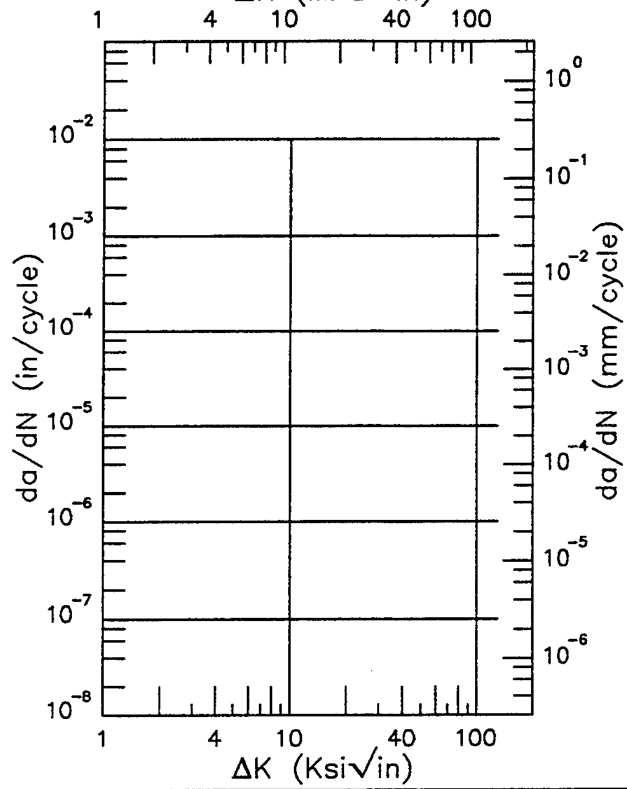
Figure 8.7.3.1.40

Condition/Ht: T73651
Form: 3.15 in. Plate
Specimen Type: CT
Orientation: T–L
Stress Ratio: 0.1
Frequency: 1 – 10 Hz

Yield Strength: 69 ksi
Ult. Strength: 77.2 ksi
Specimen Thk: 1.002 – 1.005 in.
Specimen Width: 7.4 in.
Ref: NC002

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
4.80 (min)	1.68
5.	1.97
6.	3.78
7.	6.21
8.	9.27
9.	13.0
10.	17.6
13.	37.7
16.	71.4
20.	144.
25.	274.
27.76 (max)	610.

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error	Life Prediction Ratio Summary
6.26	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.7.3.1.40 (Concluded)

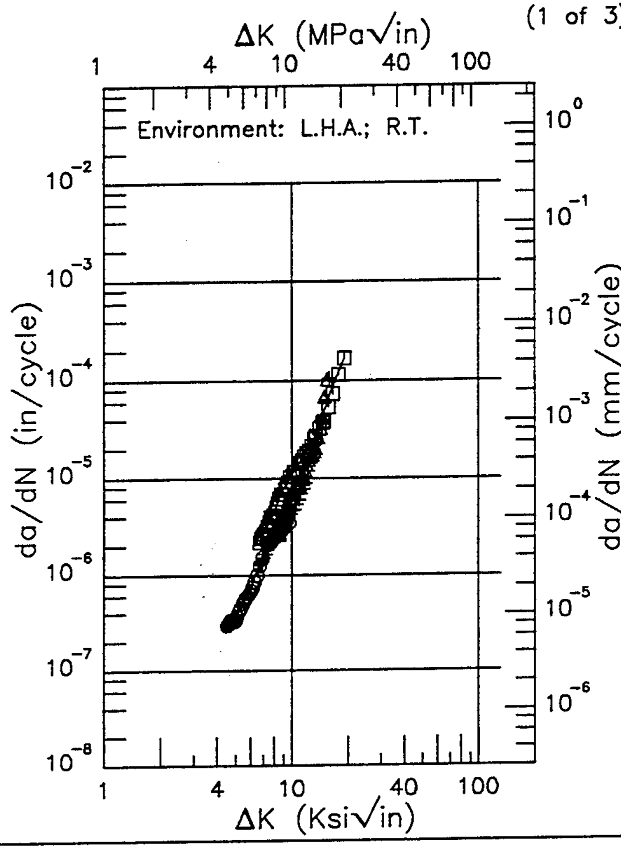
E

7050

Condition/Ht: T73651
Form: 1 – 6 in. Plate
Specimen Type: CT
Orientation: T–L
Stress Ratio: 0.33
Frequency: 18.3 Hz

Yield Strength: 59.1 – 65.4 ksi
Ult. Strength: 70.5 – 75.1 ksi
Specimen Thk: 0.999 – 1 in.
Specimen Width: 3.801 – 3.805 in.
Ref: AL013

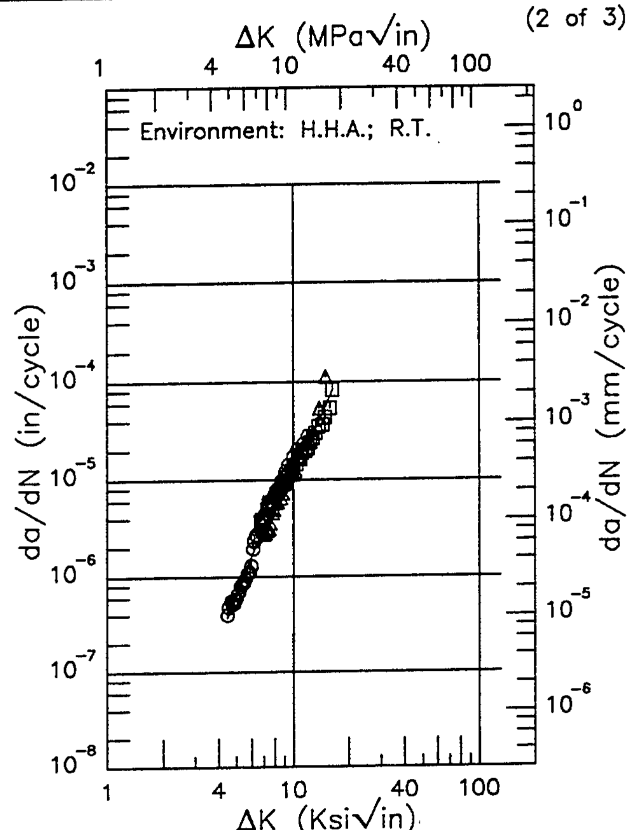
(1 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.48 (min)	0.308
5.	0.359
6.	0.747
7.	1.68
8.	3.13
9.	4.63
10.	6.26
13.	22.7
16.	77.1
18.86 (max)	164.

RMS % Error	Life Prediction Ratio Summary
30.75	0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.45 (min)	0.367
5.	0.665
6.	1.64
7.	3.38
8.	6.03
9.	9.61
10.	14.0
13.	31.3
16.	75.1
16.30 (max)	83.3

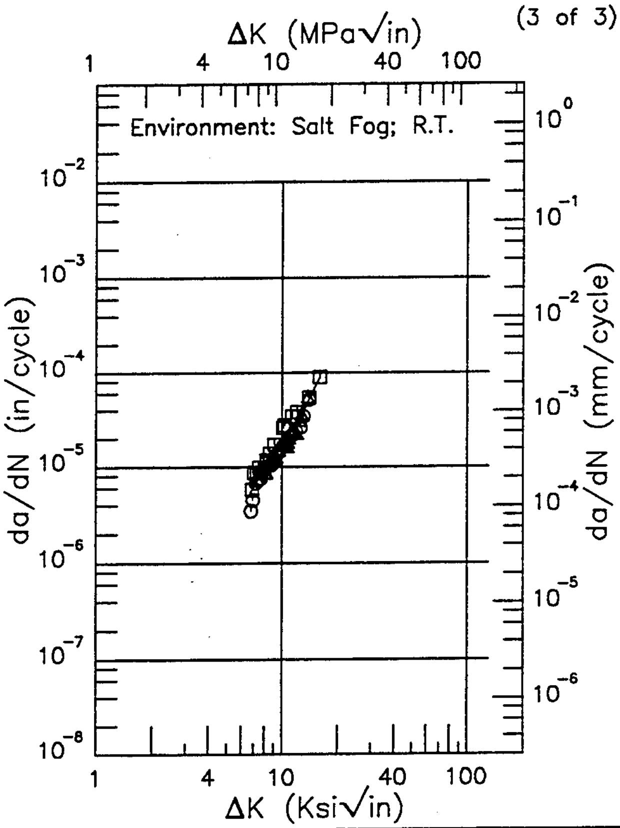
RMS % Error	Life Prediction Ratio Summary
19.38	0. .5 .8 1.25 2.

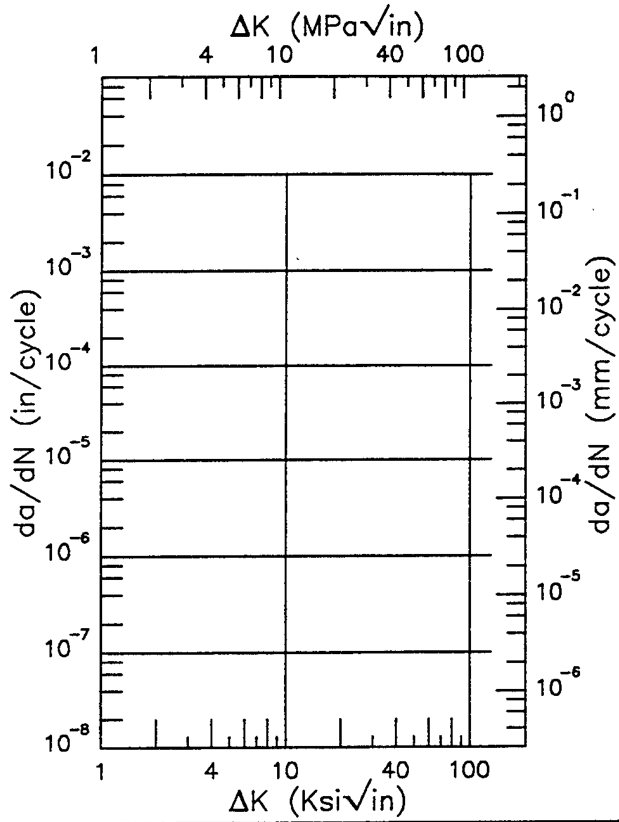
Figure 8.7.3.1.41

Condition/Ht: T73651
Form: 1 – 6 in. Plate
Specimen Type: CT
Orientation: T–L
Stress Ratio: 0.33
Frequency: 18.3 Hz

Yield Strength: 59.1 – 65.4 ksi
Ult. Strength: 70.5 – 75.1 ksi
Specimen Thk: 0.999 – 1 in.
Specimen Width: 3.801 – 3.805 in.
Ref: AL013

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.77 (min)	5.45
7.	6.18
8.	9.52
9.	13.0
10.	16.8
13.	37.7
15.96 (max)	89.7

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
17.37	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.7.3.1.41 (Concluded)

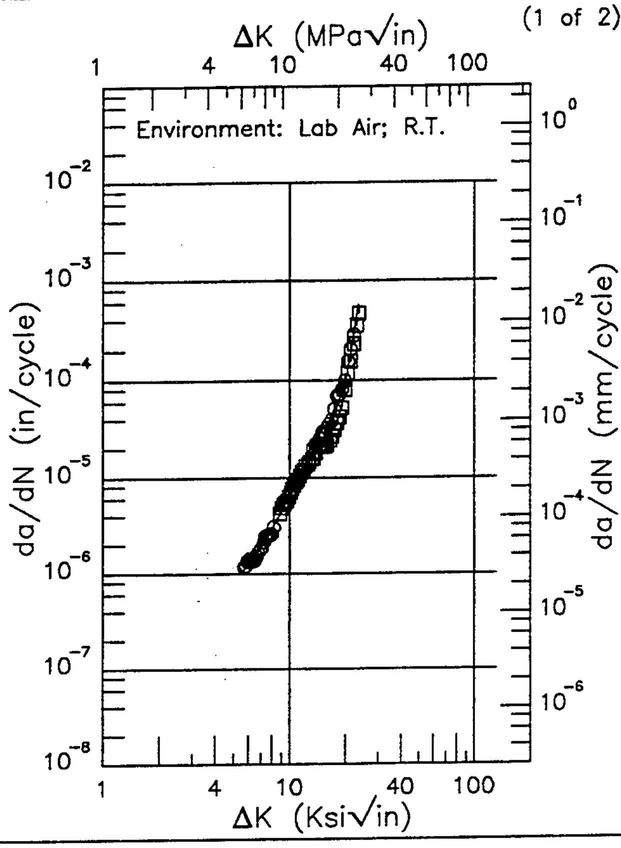
E

7050

Condition/Ht: T73651
Form: 3.15 in. Plate
Specimen Type: CT
Orientation: S−T
Stress Ratio: 0.1
Frequency: 1 − 10 Hz

Yield Strength: 64.3 ksi
Ult. Strength: 74.5 ksi
Specimen Thk: 0.499 − 0.5 in.
Specimen Width: 3 in.
Ref: NC002

(1 of 2)



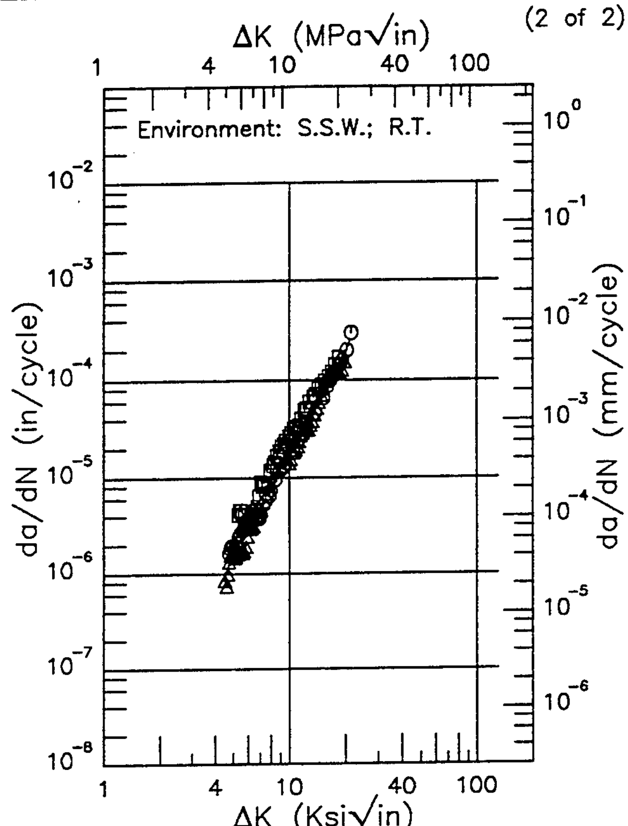
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.68 (min)	1.10
6.	1.25
7.	1.91
8.	2.94
9.	4.42
10.	6.44
13.	16.1
16.	30.5
20.	91.9
23.60 (max)	576.

RMS % Error: 13.79

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.47 (min)	0.939
5.	1.56
6.	3.31
7.	5.91
8.	9.47
9.	14.1
10.	20.1
13.	47.1
16.	89.3
20.	191.
21.33 (max)	259.

RMS % Error: 26.64

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.7.3.1.42

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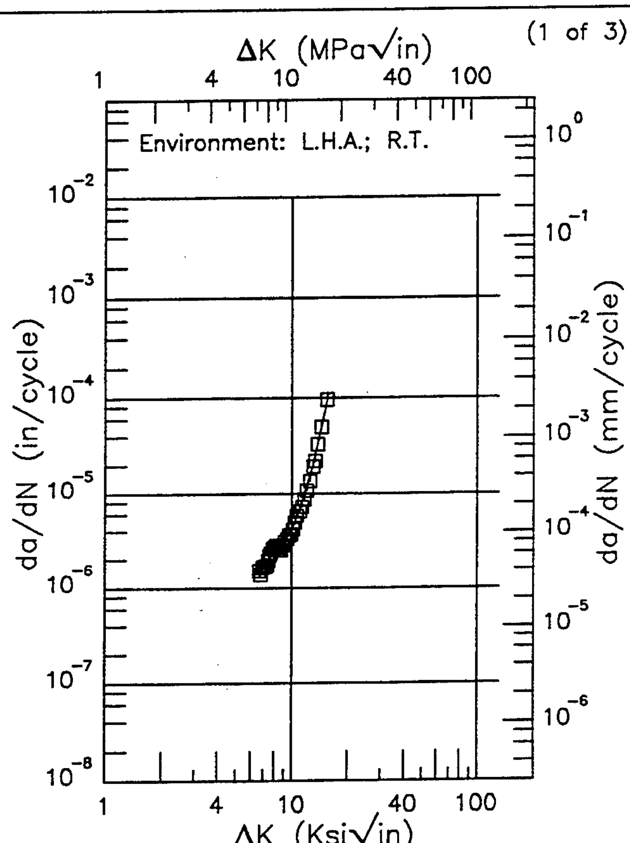
E

7050

Condition/Ht: T73651
Form: 6 in. Plate
Specimen Type: CT
Orientation: S–L
Stress Ratio: 0.33
Frequency: 18.3 Hz

Yield Strength: 56.8 ksi
Ult. Strength: 67.7 ksi
Specimen Thk: 0.998 – 1 in.
Specimen Width: 3.805 in.
Ref: AL013

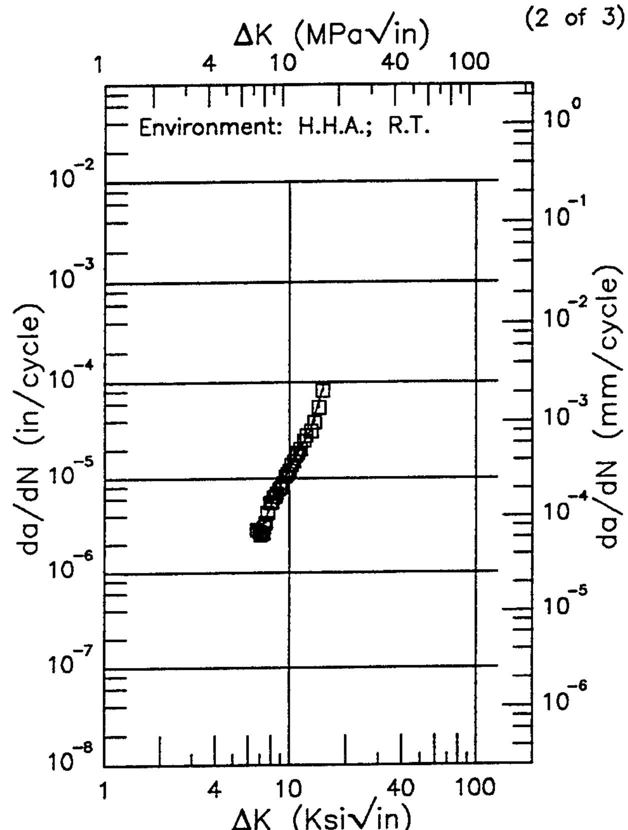
(1 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.67 (min)	1.31
7.	1.65
8.	2.41
9.	3.01
10.	4.05
13.	19.6
15.48 (max)	95.2

RMS % Error	Life Prediction Ratio Summary
7.65	0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.71 (min)	2.32
7.	2.74
8.	5.07
9.	8.52
10.	12.5
13.	32.8
14.95 (max)	83.9

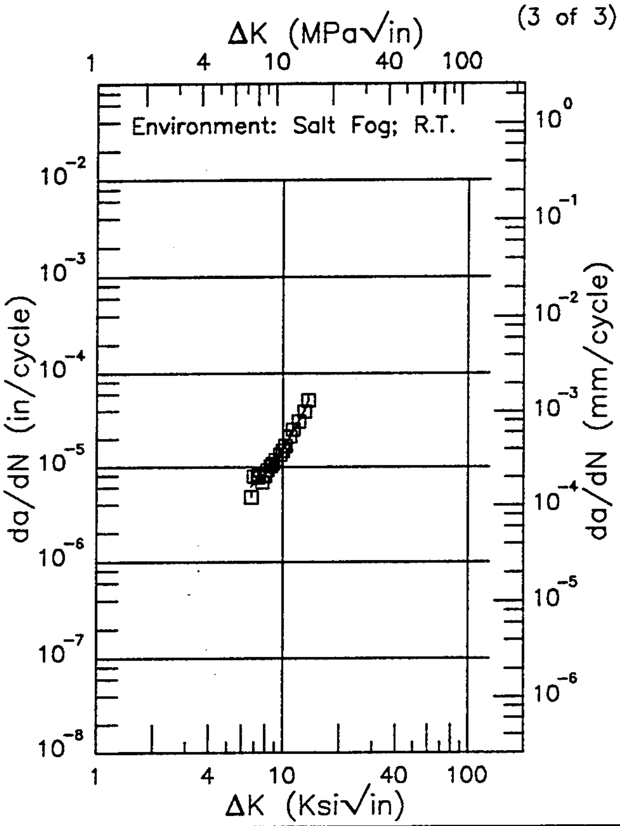
RMS % Error	Life Prediction Ratio Summary
8.46	0. .5 .8 1.25 2.

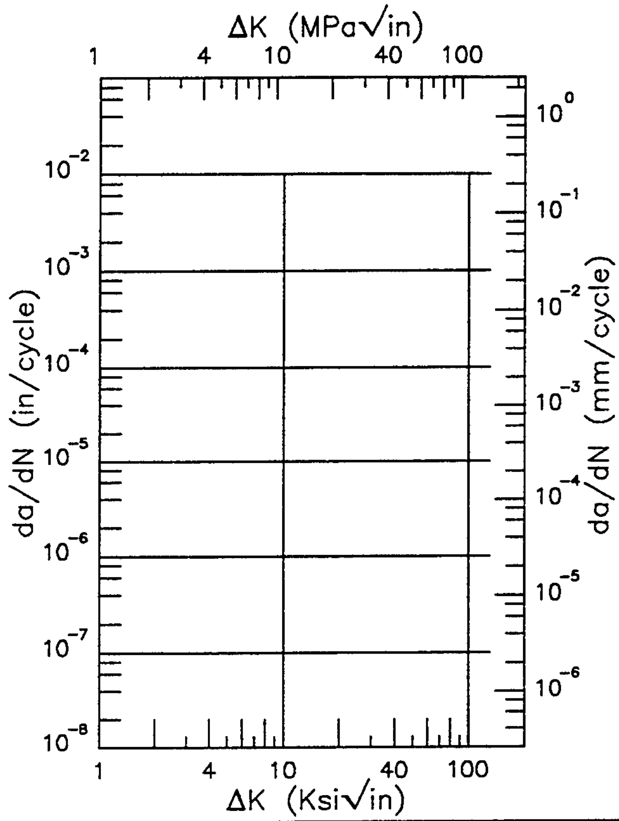
Figure 8.7.3.1.43

Condition/Ht: T73651
Form: 6 in. Plate
Specimen Type: CT
Orientation: S–L
Stress Ratio: 0.33
Frequency: 18.3 Hz

Yield Strength: 56.8 ksi
Ult. Strength: 67.7 ksi
Specimen Thk: 0.998 – 1 in.
Specimen Width: 3.805 in.
Ref: AL013

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.75 (min)	6.07
7.	6.82
8.	8.55
9.	10.9
10.	15.5
13.	39.4
13.65 (max)	51.7

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
8.12	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

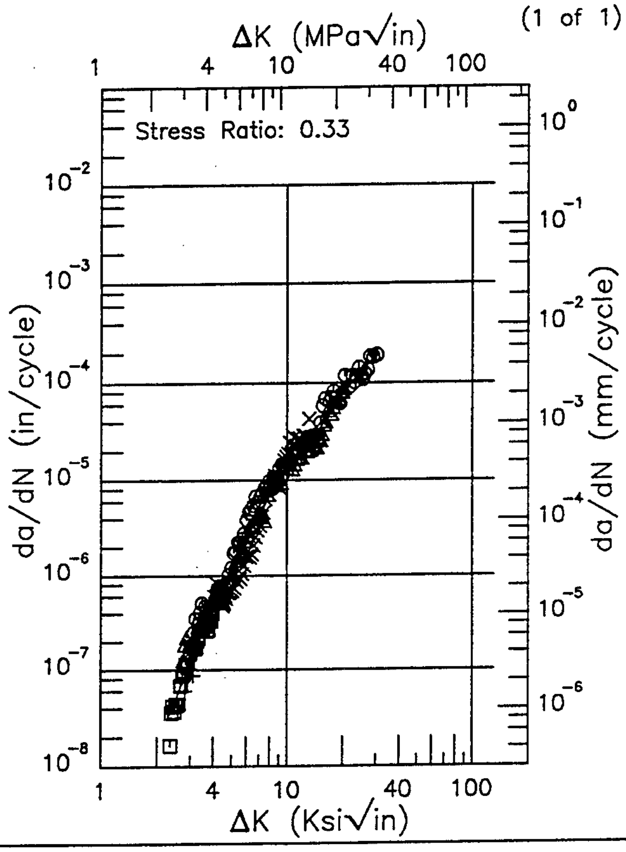
Figure 8.7.3.1.43 (Concluded)

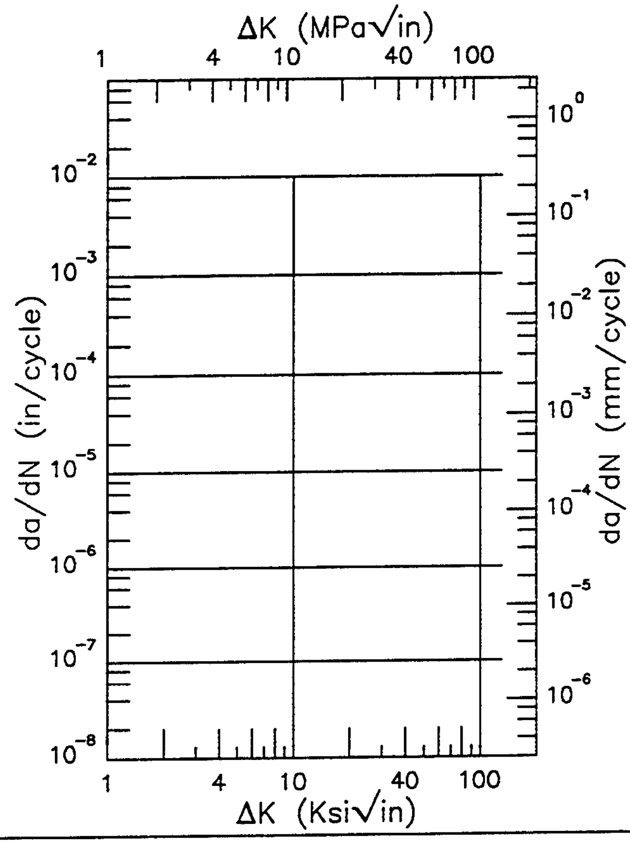
R 7050

Condition/Ht: T73651
Form: 1 – 5.68 in. Plate
Specimen Type: WOL
Orientation: L–T
Frequency: 25 Hz
Environment: H.H.A.; RT

Yield Strength: 69 ksi
Ult. Strength: 77 ksi
Specimen Thk: 0.25 – 0.252 in.
Specimen Width: 2.546 – 2.55 in.
Ref: AL013

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.34 (min)	0.0341
2.5	0.0481
3.	0.120
3.5	0.251
4.	0.461
5.	1.20
6.	2.46
7.	4.33
8.	6.83
9.	9.96
10.	13.7
13.	27.6
16.	45.2
20.	76.5
25.	133.
30.	183.
30.30 (max)	185.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
31.40	0. .5 .8 1.25 2.

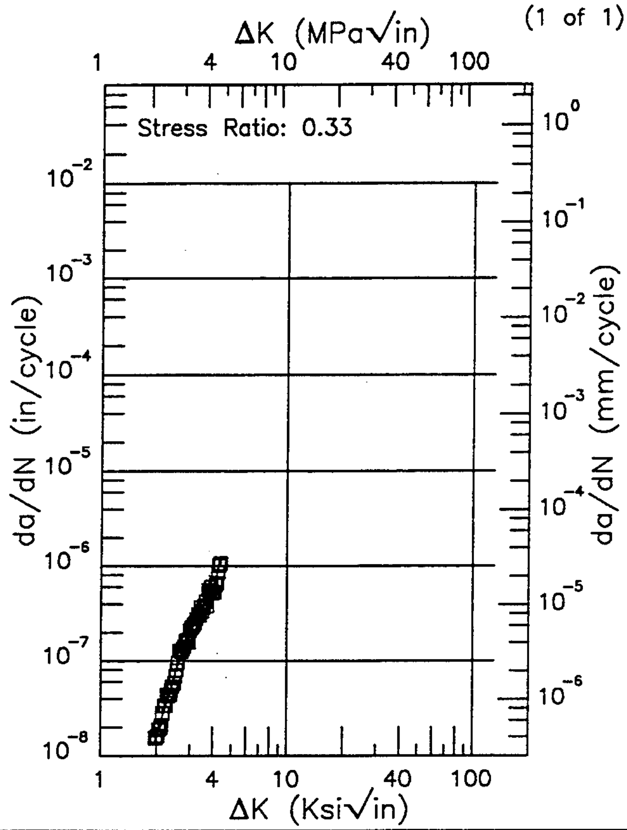
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

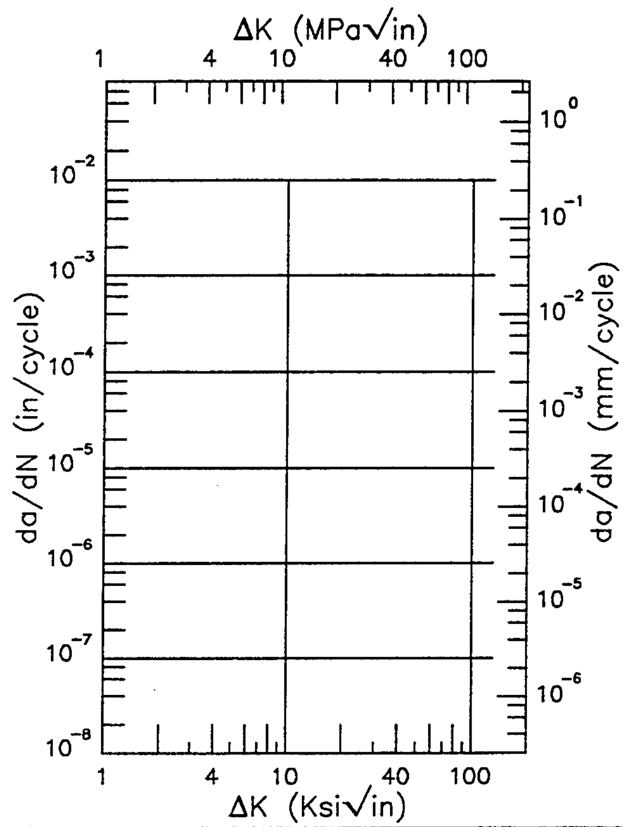
Figure 8.7.3.1.44

Condition/Ht: T73651
Form: 1 in. Plate
Specimen Type: WOL
Orientation: L–T
Frequency: 25 Hz
Environment: H.H.A.; RT

Yield Strength: 69 ksi
Ult. Strength: 77 ksi
Specimen Thk: 0.243 in.
Specimen Width: 2.496 in.
Ref: AL013

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
1.96 (min)	0.0145
2.	0.0163
2.5	0.0759
3.	0.199
3.5	0.366
4.	0.571
4.36 (max)	1.14

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error	Life Prediction Ratio Summary
9.98	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

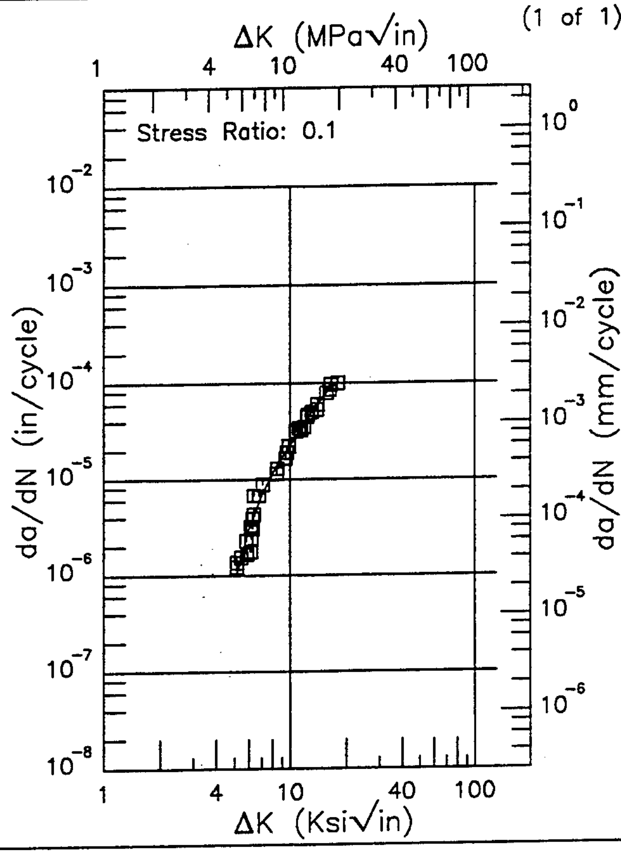
Figure 8.7.3.1.45

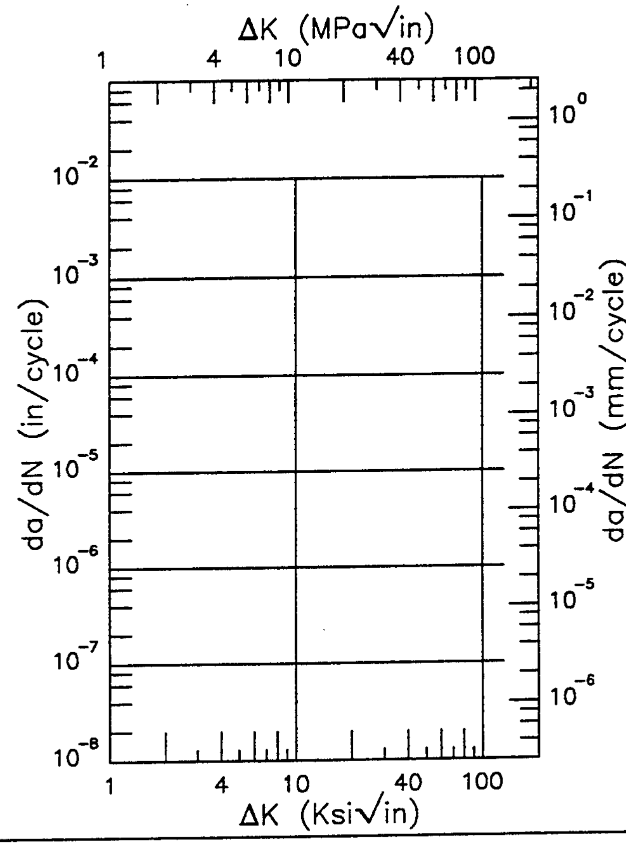
R 7050

Condition/Ht: T73651
Form: 1.13 in. Plate
Specimen Type:
Orientation:
Frequency: 1 Hz
Environment: 3.5% NACL; RT

Yield Strength:
Ult. Strength:
Specimen Thk:
Specimen Width:
Ref: 91332

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.14 (min)	0.989
6.	3.02
7.	6.78
8.	11.5
9.	16.7
10.	22.6
13.	49.3
16.	85.7
17.87 (max)	99.7

ΔK (Ksi√in) da/dN (10^{-6}in/cycle)

RMS % Error
19.69

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

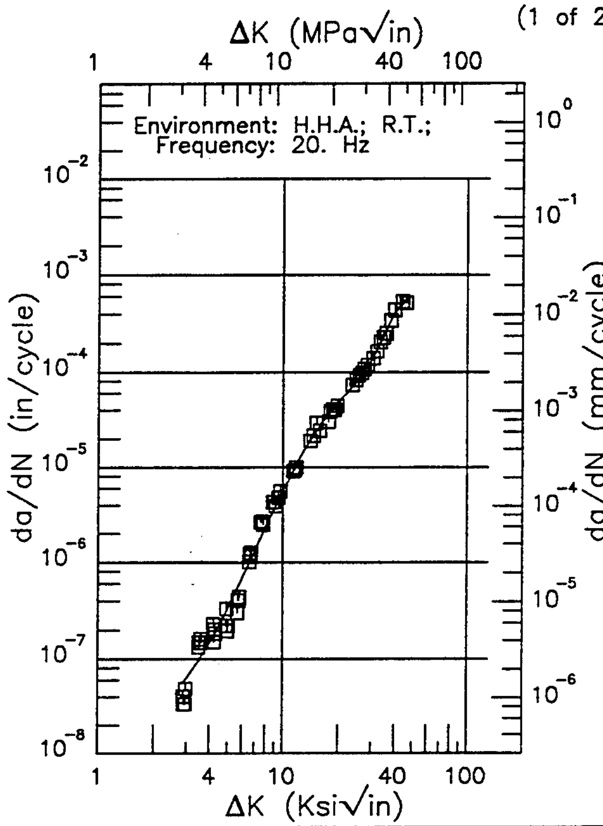
0. .5 .8 1.25 2.

Figure 8.7.3.1.46

Condition/Ht: T73651
Form: 0.44 – 1 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.1

Yield Strength:
Ult. Strength:
Specimen Thk: 0.151 in.
Specimen Width: 3 in.
Ref: 86844

(1 of 2)

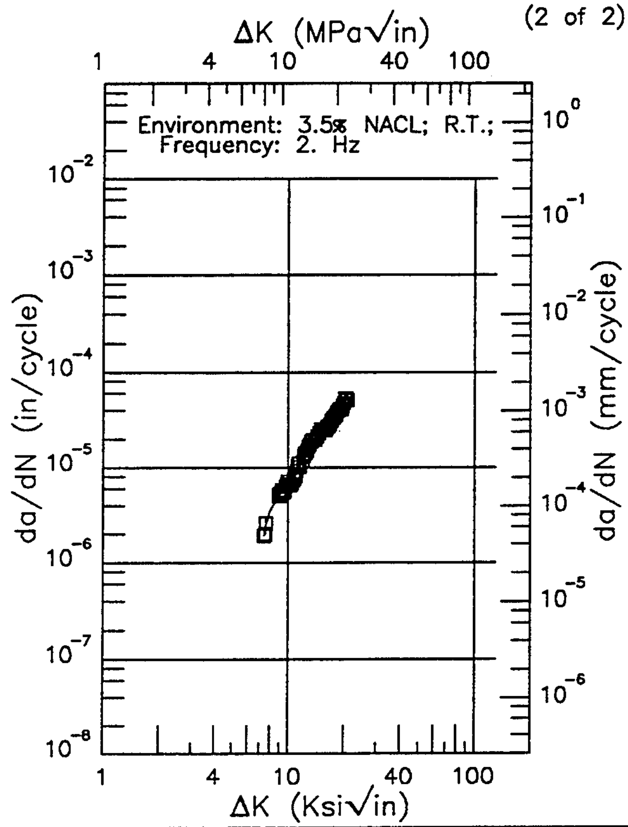


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.88 (min)	0.0573
3.	0.0630
3.5	0.0952
4.	0.146
5.	0.329
6.	0.686
7.	1.31
8.	2.29
9.	3.74
10.	5.73
13.	15.2
16.	28.9
20.	48.8
25.	79.1
30.	134.
35.	246.
40.	413.
45.76 (max)	547.

RMS % Error
23.25

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
7.42 (min)	2.17
8.	3.47
9.	5.27
10.	6.65
13.	16.5
16.	26.3
20.	48.2
20.84 (max)	52.0

RMS % Error
6.38

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

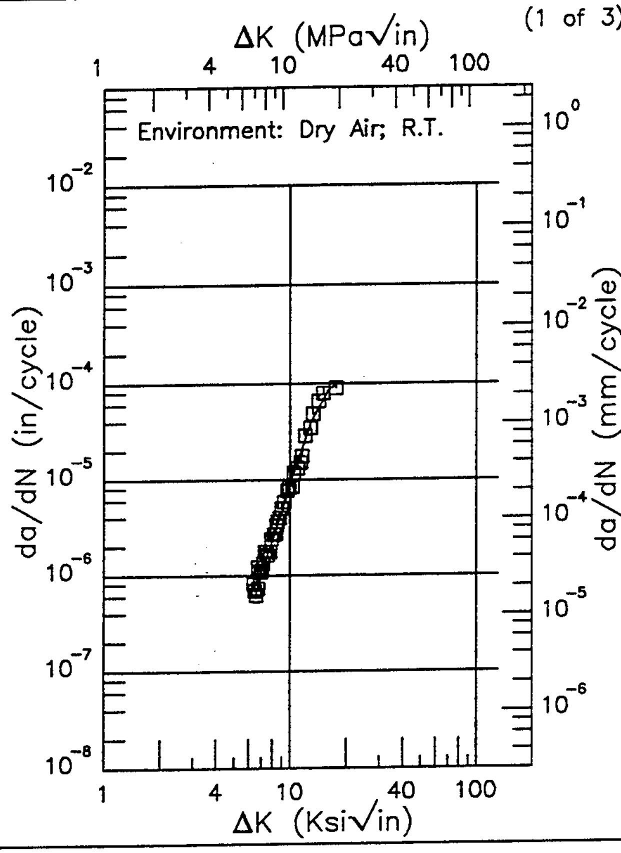
Figure 8.7.3.1.47

E — 7050

Condition/Ht: T73652
Form: 2.5 in. Forging
Specimen Type: CT
Orientation: T–L
Stress Ratio: 0.33
Frequency: 18.3 Hz

Yield Strength: 63.5 ksi
Ult. Strength: 75.5 ksi
Specimen Thk: 1 in.
Specimen Width: 3.805 in.
Ref: AL015

(1 of 3)



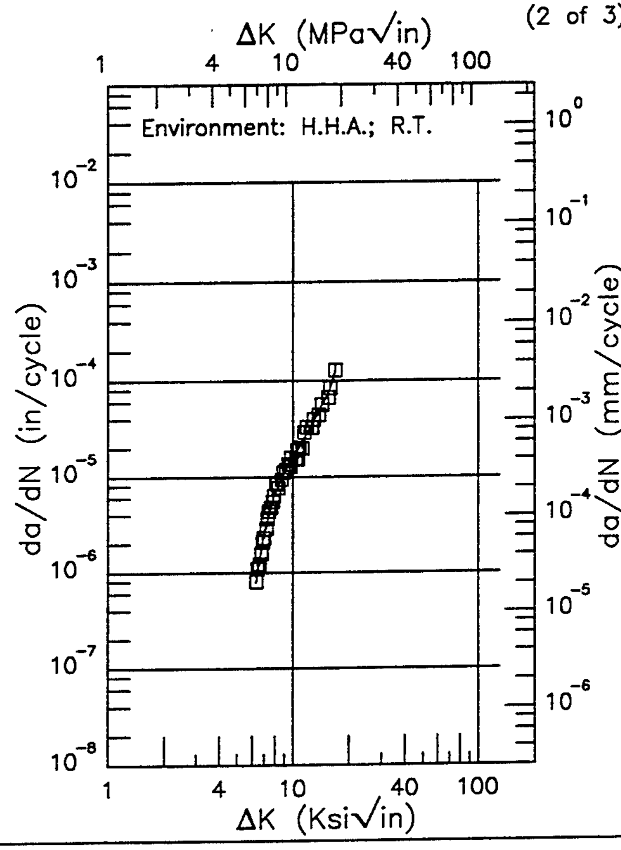
ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
6.37 (min)	0.747
7.	1.10
8.	2.24
9.	4.57
10.	8.90
13.	40.5
16.	85.8
17.47 (max)	96.5

RMS % Error 13.93

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
6.31 (min)	0.775
7.	2.57
8.	6.69
9.	11.1
10.	15.7
13.	38.9
16.	82.7
16.93 (max)	129.

RMS % Error 9.37

Life Prediction Ratio Summary

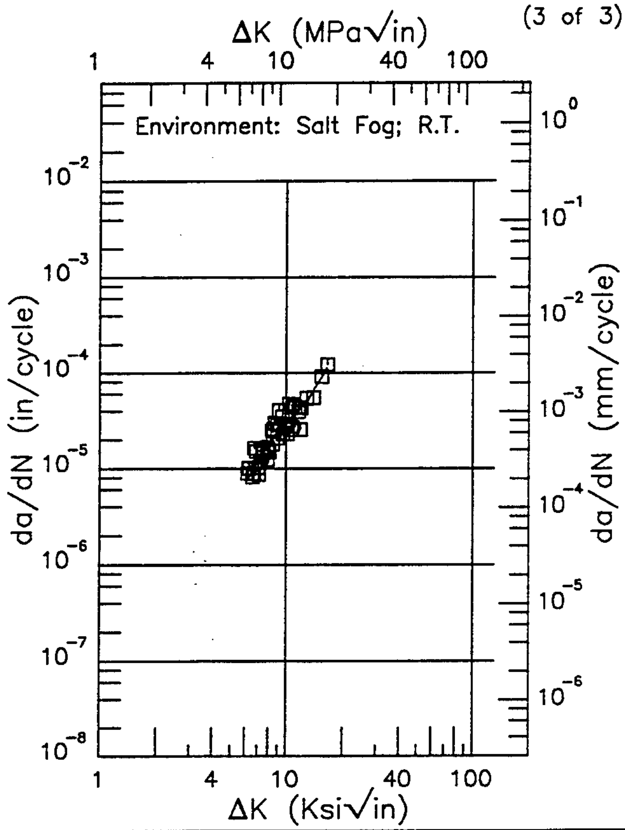
0. .5 .8 1.25 2.

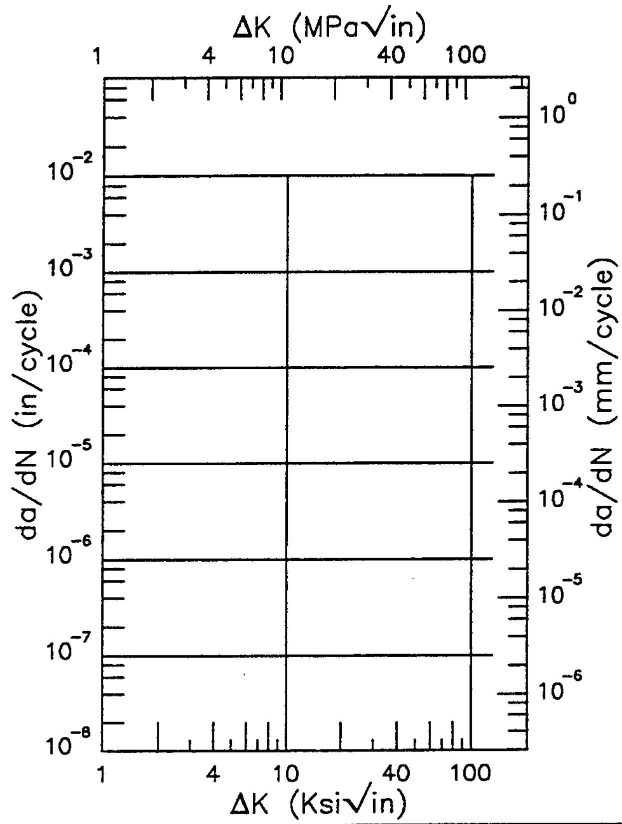
Figure 8.7.3.1.48

Condition/Ht: T73652
Form: 2.5 in. Forging
Specimen Type: CT
Orientation: T−L
Stress Ratio: 0.33
Frequency: 18.3 Hz

Yield Strength: 63.5 ksi
Ult. Strength: 75.5 ksi
Specimen Thk: 1 in.
Specimen Width: 3.805 in.
Ref: AL015

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.17 (min)	7.58
7.	12.7
8.	18.8
9.	24.4
10.	29.9
13.	51.5
16.	103.
16.36 (max)	114.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
23.77	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.7.3.1.48 (Concluded)

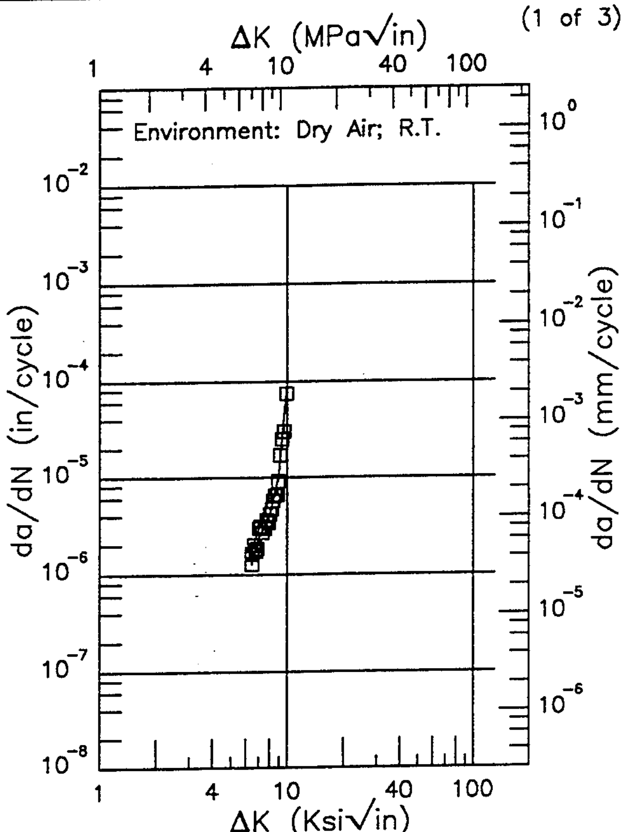
E

7050

Condition/Ht: T73652
Form: 7.5 in. Forging
Specimen Type: CT
Orientation: S–L
Stress Ratio: 0.33
Frequency: 18.3 Hz

Yield Strength: 58.1 ksi
Ult. Strength: 71 ksi
Specimen Thk: 1 in.
Specimen Width: 3.805 in.
Ref: AL015

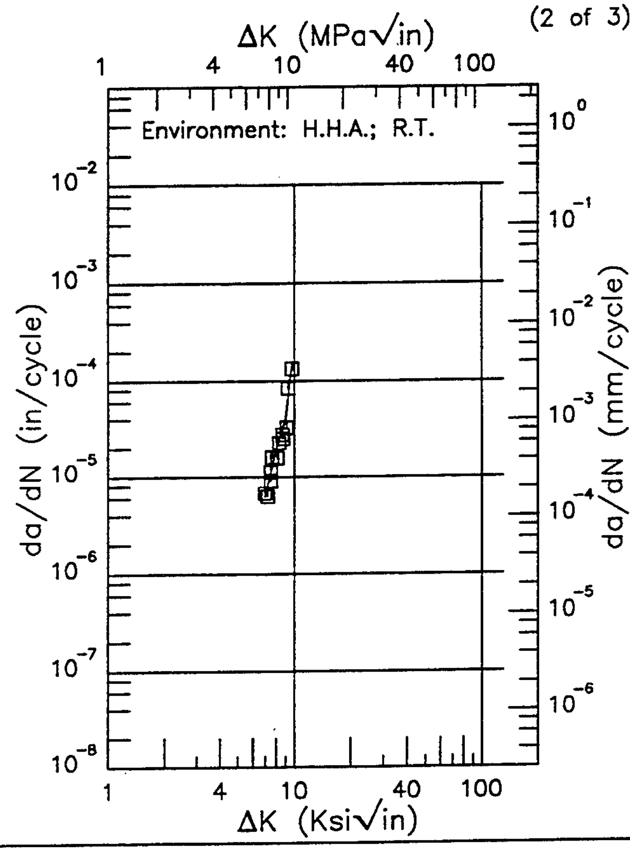
(1 of 3)



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
6.44 (min)	1.29
7.	2.38
8.	3.96
9.	11.2
9.85 (max)	71.6

RMS % Error	Life Prediction Ratio Summary
15.07	0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
6.96 (min)	6.41
7.	6.18
8.	19.5
9.	40.3
9.64 (max)	135.

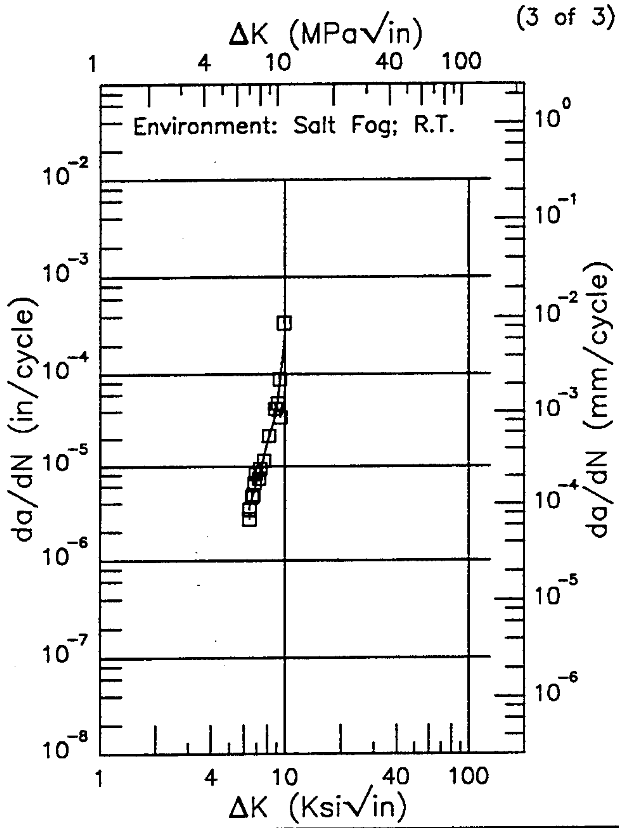
RMS % Error	Life Prediction Ratio Summary
20.34	0. .5 .8 1.25 2.

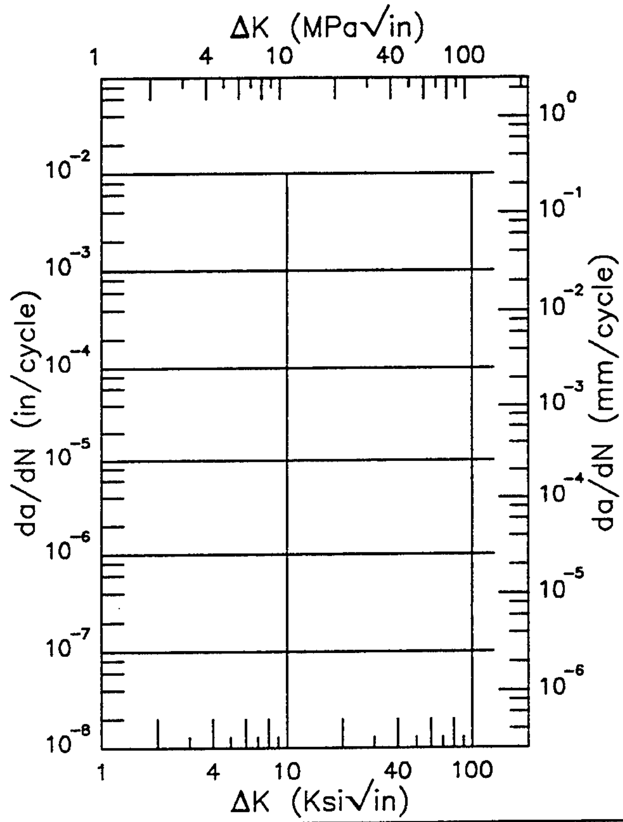
Figure 8.7.3.1.49

Condition/Ht: T73652
Form: 7.5 in. Forging
Specimen Type: CT
Orientation: S–L
Stress Ratio: 0.33
Frequency: 18.3 Hz

Yield Strength: 58.1 ksi
Ult. Strength: 71 ksi
Specimen Thk: 1 in.
Specimen Width: 3.805 in.
Ref: AL015

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.41 (min)	3.49
7.	6.71
8.	18.1
9.	39.2
9.89 (max)	247.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
23.88

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

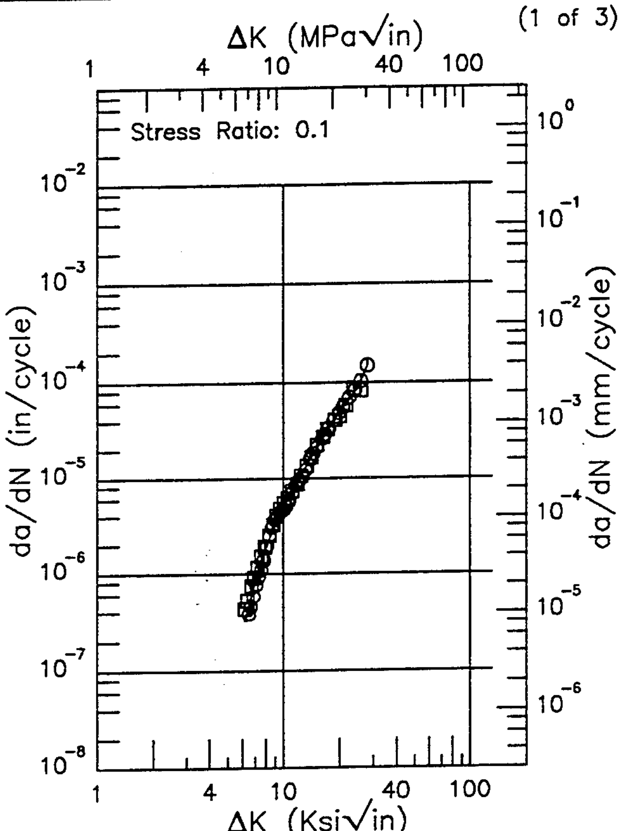
Figure 8.7.3.1.49 (Concluded)

R 7050

Condition/Ht: T74
Form:
Specimen Type: CT
Orientation: L–T
Frequency: 20 Hz
Environment: LAB AIR; RT

Yield Strength: 61.9 ksi
Ult. Strength:
Specimen Thk: 0.497 – 0.498 in.
Specimen Width: 2 – 2.002 in.
Ref: SW001

(1 of 3)

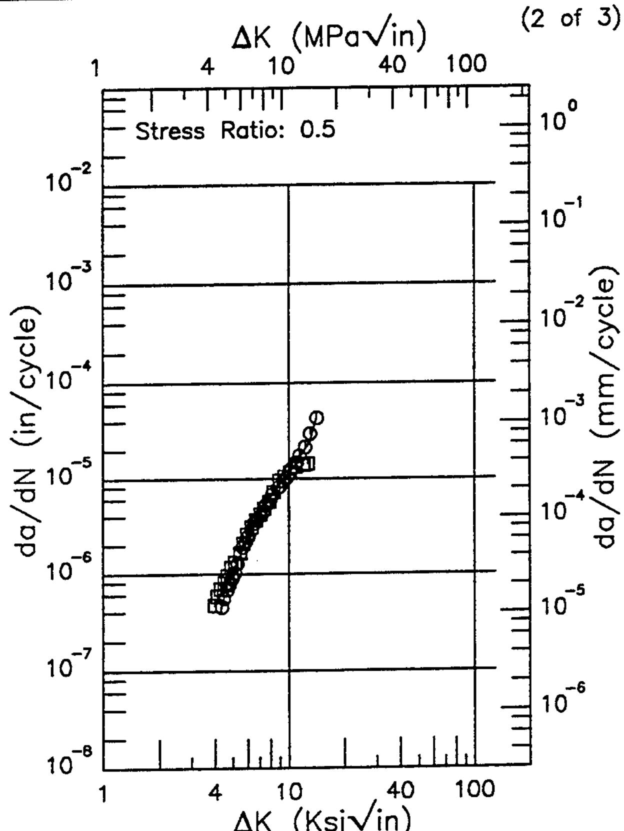


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.17 (min)	0.324
7.	0.846
8.	1.87
9.	3.27
10.	5.01
13.	12.7
16.	25.6
20.	50.7
25.	89.2
27.77 (max)	142.

RMS % Error
11.06

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.97 (min)	0.461
4.	0.472
5.	1.08
6.	2.33
7.	4.27
8.	6.52
9.	8.79
10.	11.2
13.	24.8
14.14 (max)	44.0

RMS % Error
11.69

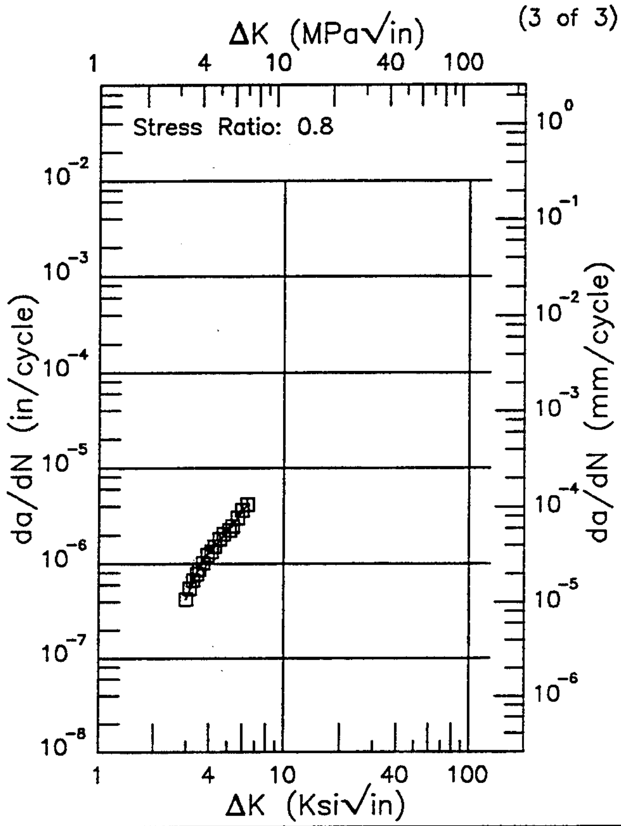
Life Prediction Ratio Summary
0. .5 .8 1.25 2.

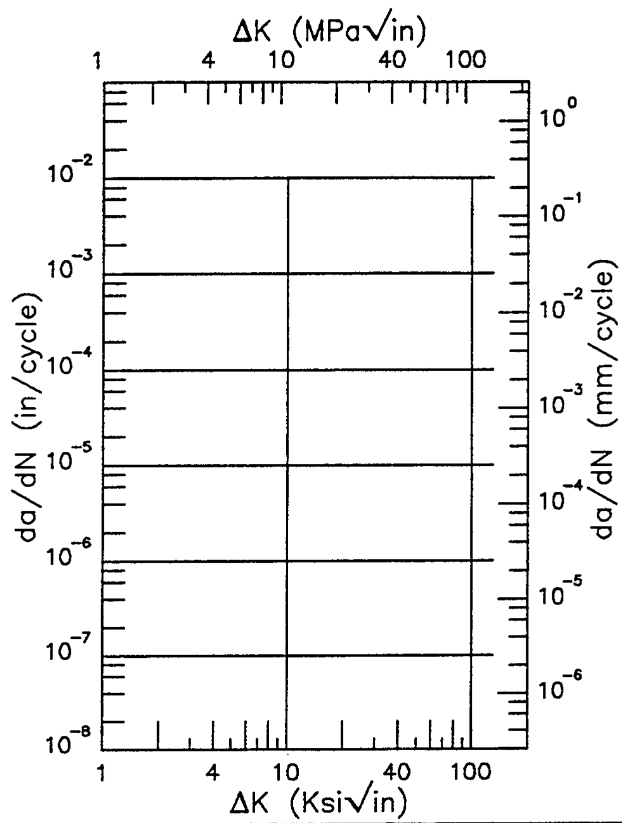
Figure 8.7.3.1.50

7050 R

Condition/Ht: T74
Form:
Specimen Type: CT
Orientation: L-T
Frequency: 20 Hz
Environment: LAB AIR; RT

Yield Strength: 61.9 ksi
Ult. Strength:
Specimen Thk: 0.497 – 0.498 in.
Specimen Width: 2 – 2.002 in.
Ref: SW001





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.99 (min)	0.421
3.	0.432
3.5	0.854
4.	1.29
5.	2.18
6.	3.53
6.36 (max)	4.18

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error 2.72

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.7.3.1.50 (Concluded)

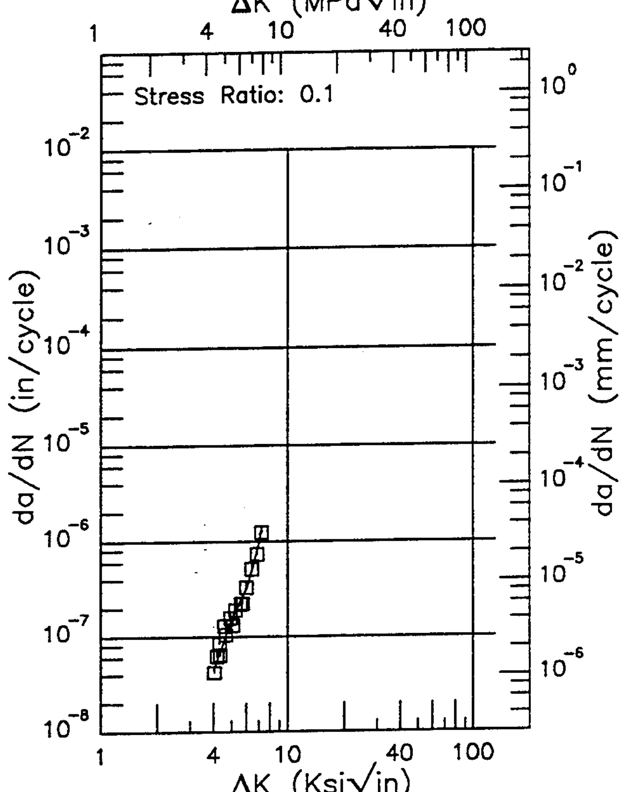
R

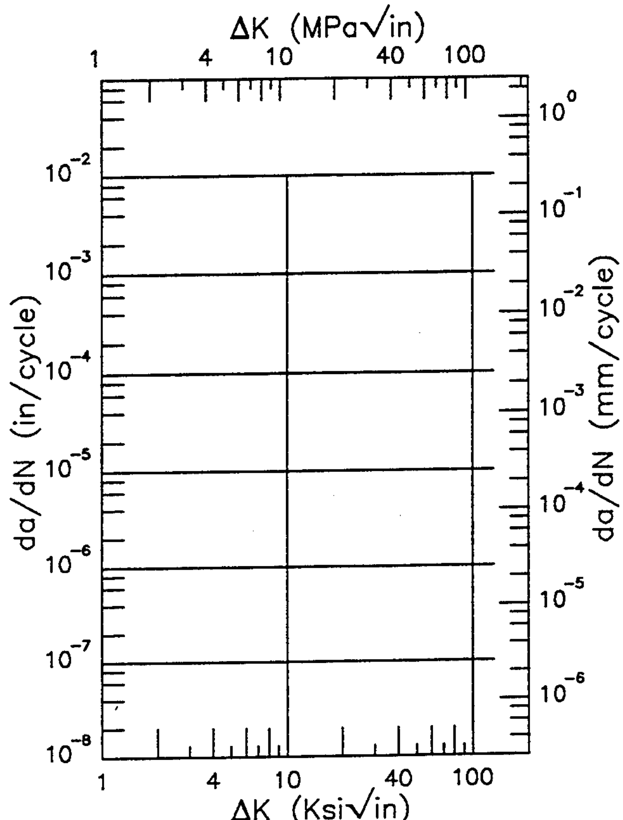
7050

Condition/Ht: T74
Form:
Specimen Type: CT
Orientation: L–T
Frequency: 30 Hz
Environment: LAB AIR; RT

Yield Strength: 61.9 ksi
Ult. Strength:
Specimen Thk: 0.498 in.
Specimen Width: 2 in.
Ref: SW001

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
4.02 (min)	0.0449
5.	0.153
6.	0.322
7.	0.945
7.21 (max)	1.28

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error	Life Prediction Ratio Summary
15.65	0. .5 .8 1.25 2.

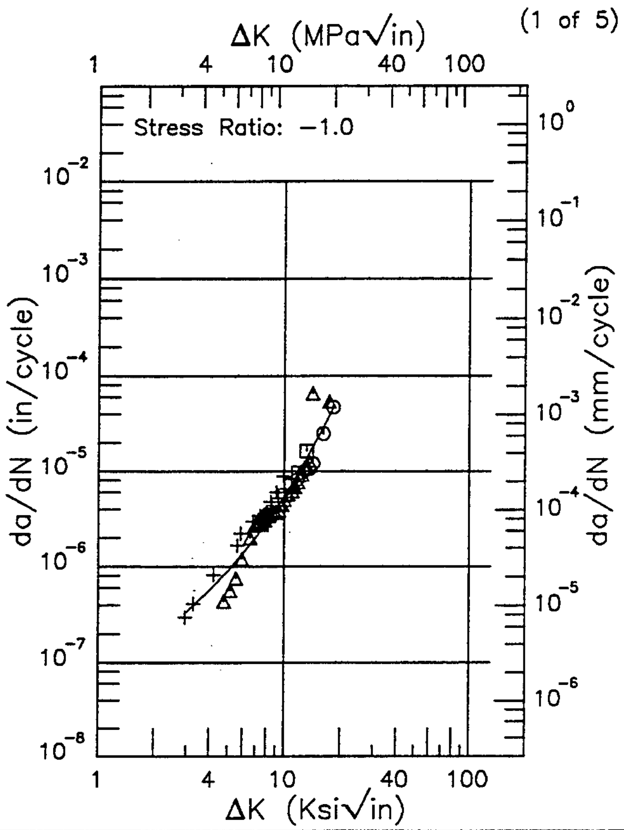
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.7.3.1.51

Condition/Ht: T7451
Form: 0.5 in. Plate
Specimen Type: CCP (max load specified)
Orientation: L–T
Frequency: 10 Hz
Environment: LAB AIR; RT

Yield Strength:
Ult. Strength:
Specimen Thk: 0.249 – 0.251 in.
Specimen Width: 3.998 – 4.005 in.
Ref: NC005

(1 of 5)

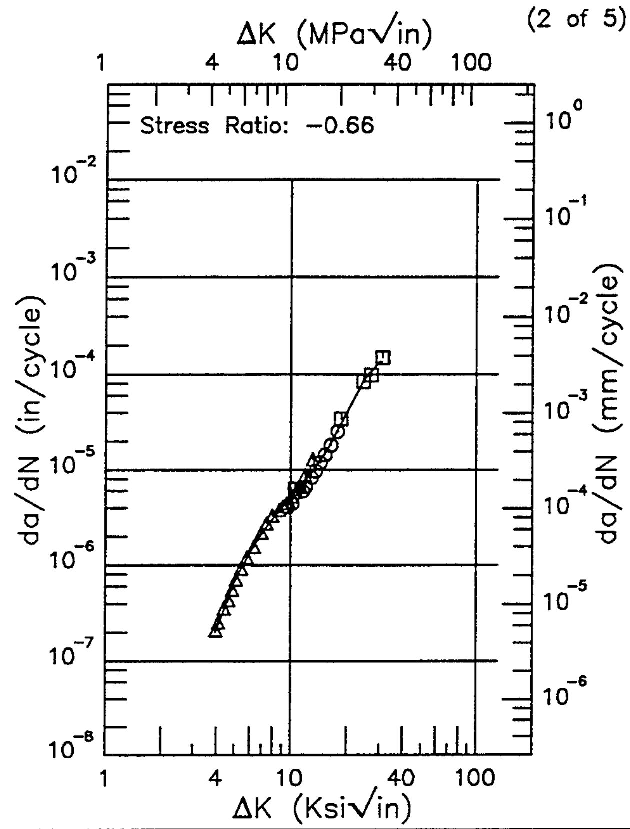


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.93 (min)	0.326
3.	0.338
3.5	0.440
4.	0.564
5.	0.891
6.	1.35
7.	1.99
8.	2.86
9.	4.01
10.	5.51
13.	13.1
16.	28.0
18.07 (max)	45.3

RMS % Error 47.31

Life Prediction Ratio Summary

(2 of 5)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.94 (min)	0.201
4.	0.218
5.	0.671
6.	1.34
7.	2.14
8.	3.02
9.	3.98
10.	5.05
13.	9.40
16.	17.2
20.	39.6
25.	90.6
30.	133.
30.88 (max)	136.

RMS % Error 10.01

Life Prediction Ratio Summary

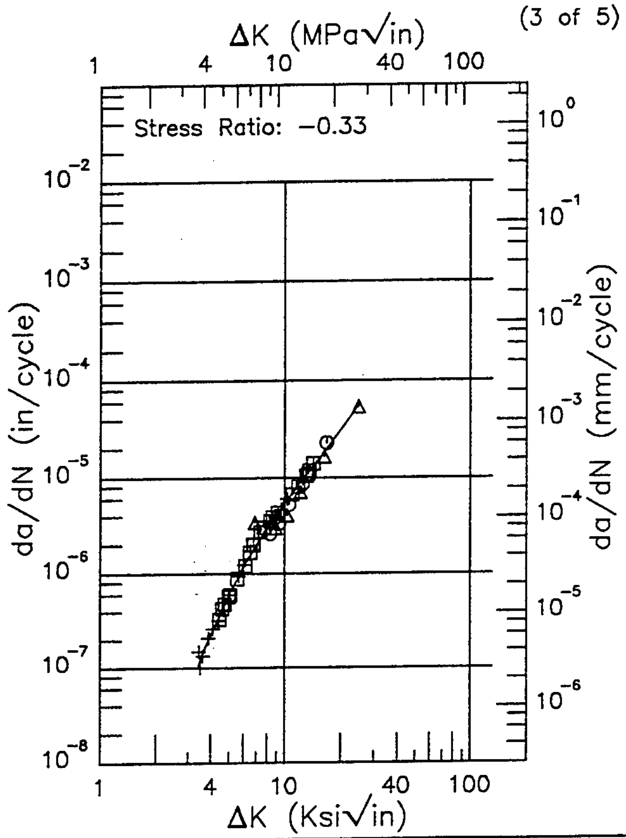
Figure 8.7.3.1.52

R — 7050

Condition/Ht: T7451
Form: 0.5 in. Plate
Specimen Type: CCP (max load specified)
Orientation: L–T
Frequency: 10 Hz
Environment: LAB AIR; RT

Yield Strength:
Ult. Strength:
Specimen Thk: 0.249 – 0.251 in.
Specimen Width: 3.998 – 4.005 in.
Ref: NC005

(3 of 5)

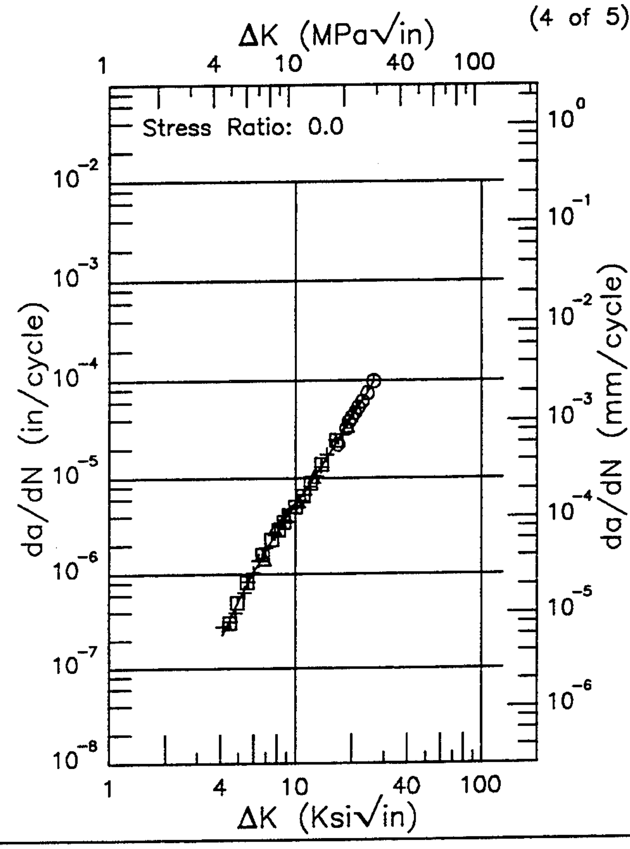


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.44 (min)	0.107
3.5	0.116
4.	0.226
5.	0.598
6.	1.18
7.	1.97
8.	2.96
9.	4.13
10.	5.47
13.	10.6
16.	17.6
20.	31.0
24.66 (max)	55.1

RMS % Error: 17.04

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

(4 of 5)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.11 (min)	0.229
5.	0.516
6.	1.03
7.	1.76
8.	2.72
9.	3.90
10.	5.29
13.	11.0
16.	20.6
20.	41.8
25.	80.8
26.24 (max)	97.4

RMS % Error: 7.02

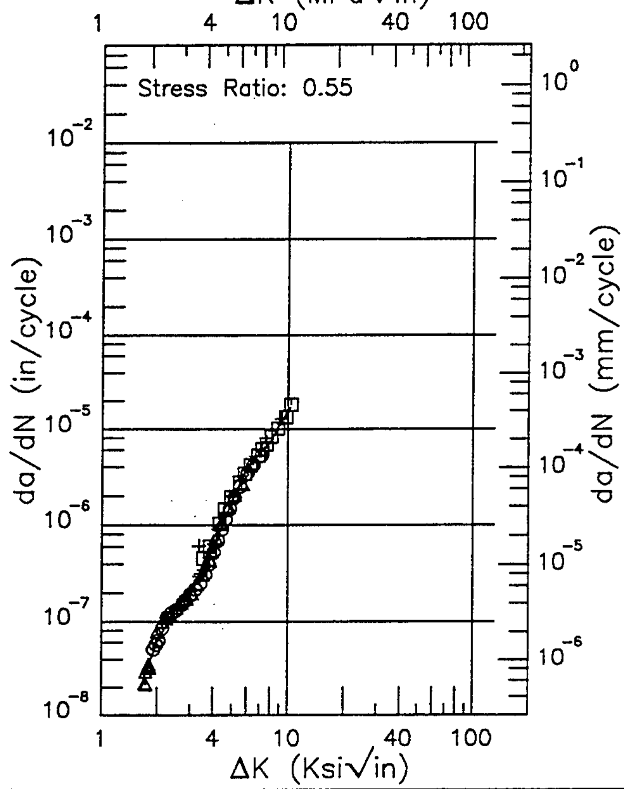
Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

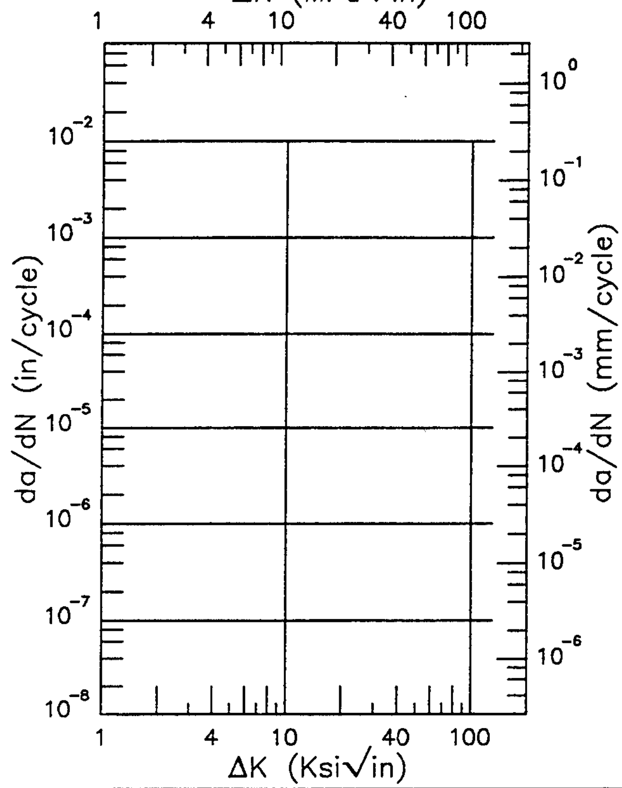
Figure 8.7.3.1.52 (Continued)

Condition/Ht: T7451
Form: 0.5 in. Plate
Specimen Type: CCP (max load specified)
Orientation: L-T
Frequency: 10 Hz
Environment: LAB AIR; RT

Yield Strength:
Ult. Strength:
Specimen Thk: 0.249 – 0.251 in.
Specimen Width: 3.998 – 4.005 in.
Ref: NC005

(5 of 5)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.71 (min)	0.0262
2.	0.0625
2.5	0.135
3.	0.216
3.5	0.338
4.	0.571
5.	1.75
6.	3.84
7.	5.57
8.	7.48
9.	11.1
10.	15.7
10.35 (max)	17.0

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
17.32	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

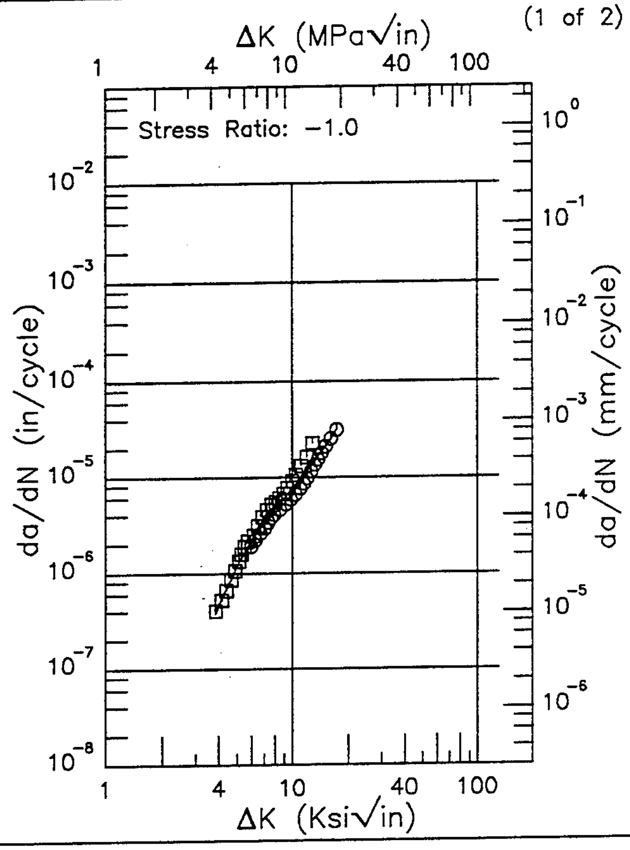
Figure 8.7.3.1.52 (Concluded)

R 7050

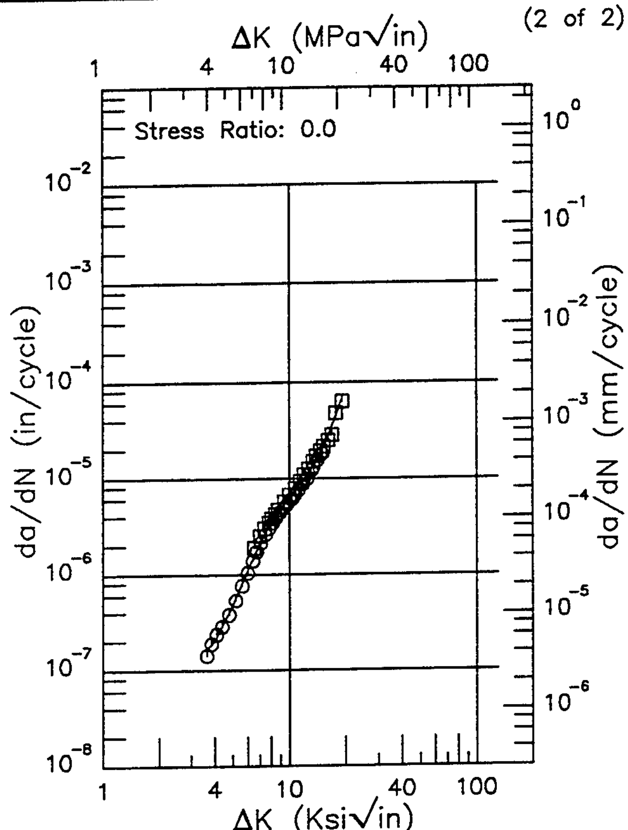
Condition/Ht: T7451
Form: 0.5 in. Plate
Specimen Type: CCP (max load specified)
Orientation: L–T
Frequency: 10 Hz
Environment: LAB AIR; RT

Yield Strength:
Ult. Strength:
Specimen Thk: 0.25 – 0.255 in.
Specimen Width: 3.899 – 3.902 in.
Ref: NC005

(1 of 2)



(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
3.83 (min)	0.372
4.	0.461
5.	1.19
6.	2.24
7.	3.45
8.	4.73
9.	6.07
10.	7.59
13.	14.2
16.	24.6
17.21 (max)	31.3

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
3.62 (min)	0.160
4.	0.203
5.	0.476
6.	1.10
7.	2.17
8.	3.47
9.	4.81
10.	6.20
13.	12.3
16.	25.1
19.05 (max)	66.1

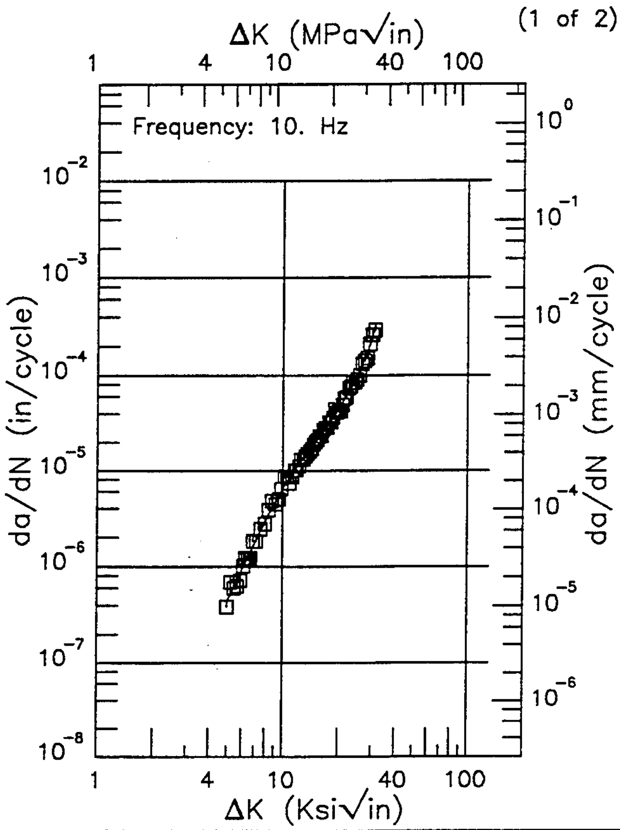
RMS % Error	Life Prediction Ratio Summary
18.27	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
8.59	0. .5 .8 1.25 2.

Figure 8.7.3.1.53

Condition/Ht: T7451
Form: 2 in. Plate
Specimen Type: CCP (max load specified)
Orientation: L–T
Stress Ratio: 0.02
Environment: LAB AIR; RT

Yield Strength: 72 ksi
Ult. Strength: 78 ksi
Specimen Thk: 0.252 in.
Specimen Width: 3.8 – 3.81 in.
Ref: MD002

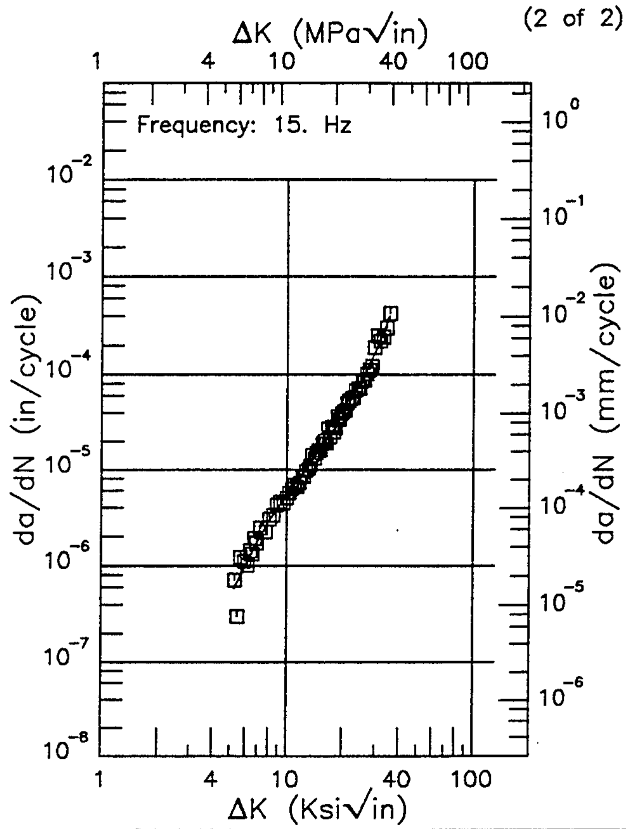


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.99 (min)	0.434
5.	0.437
6.	0.924
7.	1.73
8.	2.91
9.	4.51
10.	6.49
13.	14.0
16.	23.7
20.	45.2
25.	97.5
30.	241.
31.10 (max)	321.

RMS % Error
9.01

Life Prediction Ratio Summary

0. .5 .8 1.25 2.



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.28 (min)	0.581
6.	0.999
7.	1.78
8.	2.78
9.	3.99
10.	5.40
13.	11.0
16.	19.5
20.	38.0
25.	82.4
30.	175.
35.	366.
35.57 (max)	398.

RMS % Error
14.25

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

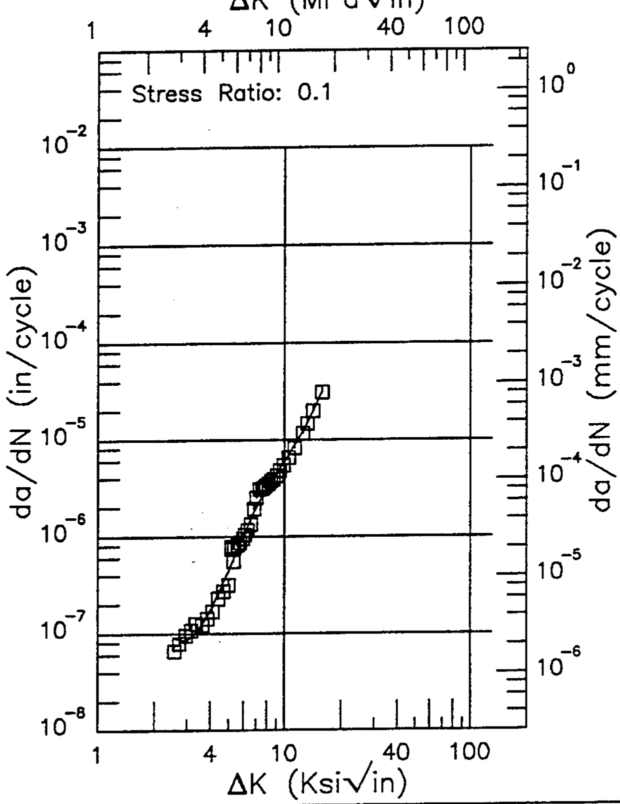
Figure 8.7.3.1.54

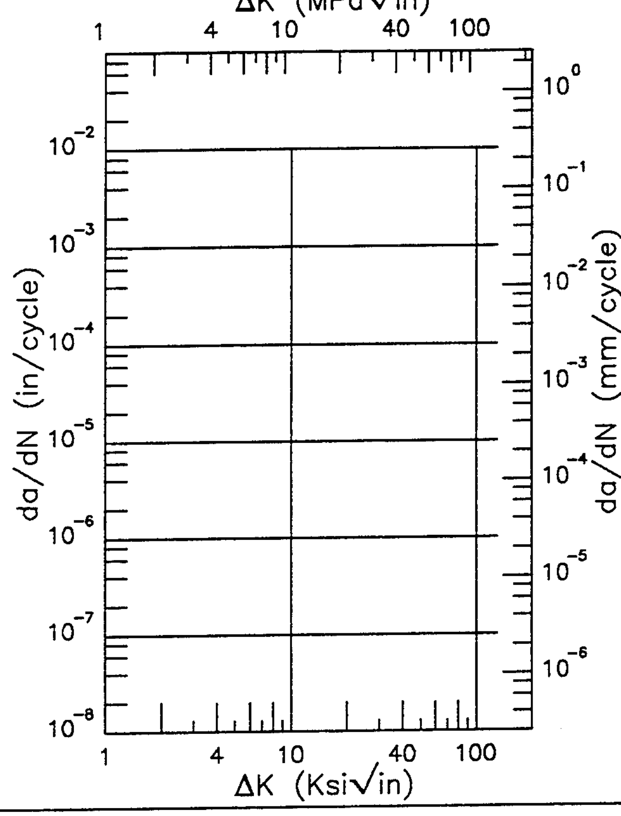
R 7050

Condition/Ht: T74511
Form: 0.75 in. Extrusion
Specimen Type: CT
Orientation: L–T
Frequency:
Environment: LAB AIR; RT

Yield Strength: 69.6 ksi
Ult. Strength: 78.8 ksi
Specimen Thk: 0.5 in.
Specimen Width: 2 in.
Ref: DA004

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.56 (min)	0.0905
3.	0.0847
3.5	0.111
4.	0.170
5.	0.445
6.	1.04
7.	1.98
8.	3.12
9.	4.41
10.	5.92
13.	13.7
15.78 (max)	31.2

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
16.70

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.7.3.1.55

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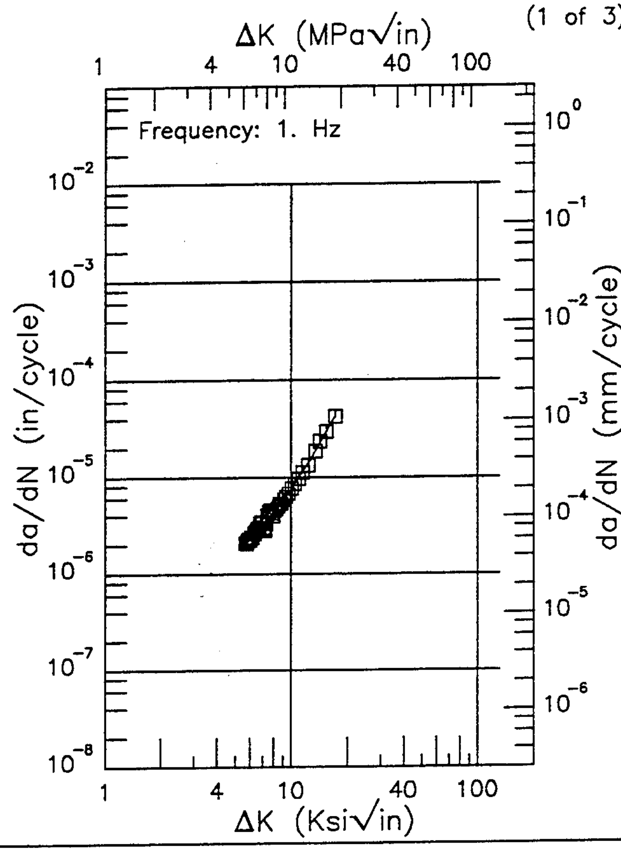
7050

F

Condition/Ht: T74511
Form: 0.75 – 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.1
Environment: LAB AIR; RT

Yield Strength: 65.7 – 69.6 ksi
Ult. Strength: 78.8 ksi
Specimen Thk: 0.249 – 0.252 in.
Specimen Width: 2.001 – 2.007 in.
Ref: DA004;DA005

(1 of 3)



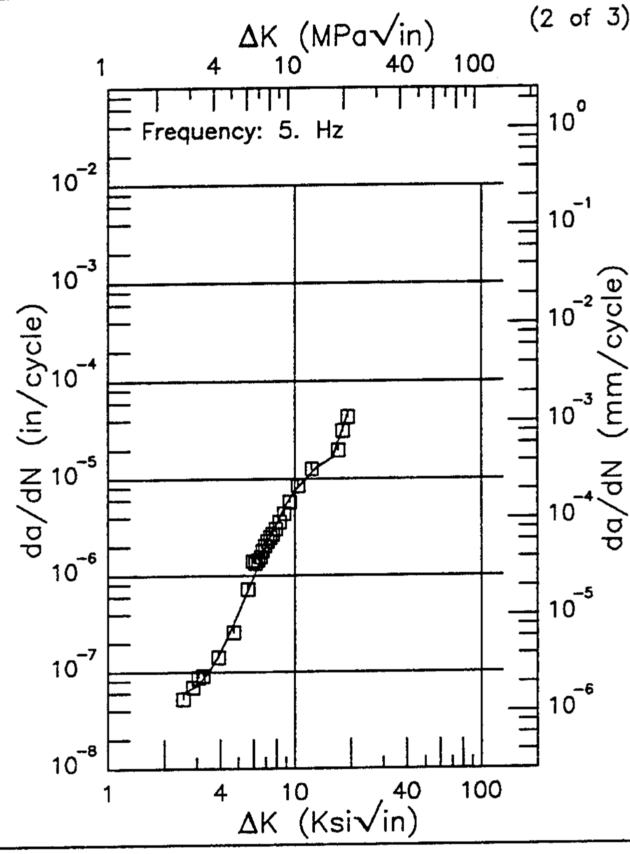
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.65 (min)	2.00
6.	2.31
7.	3.26
8.	4.37
9.	5.74
10.	7.50
13.	16.7
16.	34.7
17.04 (max)	41.7

RMS % Error 5.94

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.53 (min)	0.0613
3.	0.0712
3.5	0.103
4.	0.161
5.	0.414
6.	0.971
7.	1.98
8.	3.49
9.	5.41
10.	7.55
13.	13.0
16.	16.5
19.17 (max)	45.1

RMS % Error 14.64

Life Prediction Ratio Summary

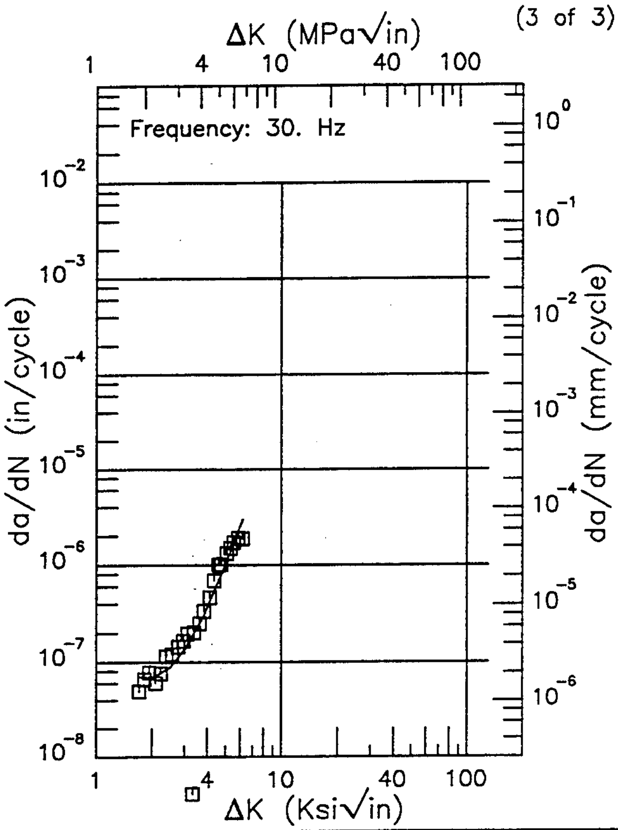
0. .5 .8 1.25 2.

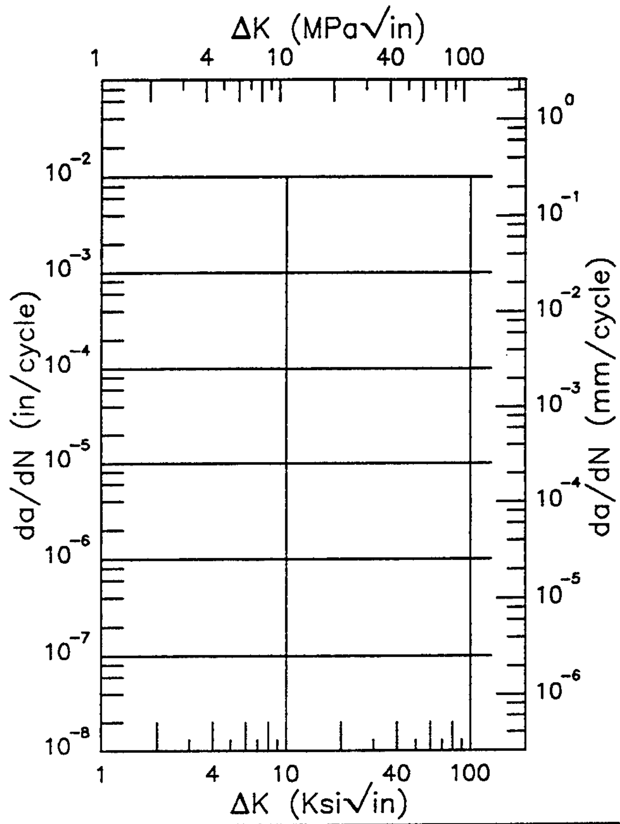
Figure 8.7.3.1.56

Condition/Ht: T74511
Form: 0.75 – 1.5 in. Extrusion
Specimen Type: CT
Orientation: L-T
Stress Ratio: 0.1
Environment: LAB AIR; RT

Yield Strength: 65.7 – 69.6 ksi
Ult. Strength: 78.8 ksi
Specimen Thk: 0.249 – 0.252 in.
Specimen Width: 2.001 – 2.007 in.
Ref: DA004;DA005

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.70 (min)	0.0702
2.	0.0681
2.5	0.0878
3.	0.135
3.5	0.221
4.	0.370
5.	1.01
6.	2.56
6.17 (max)	2.98

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
30.85	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

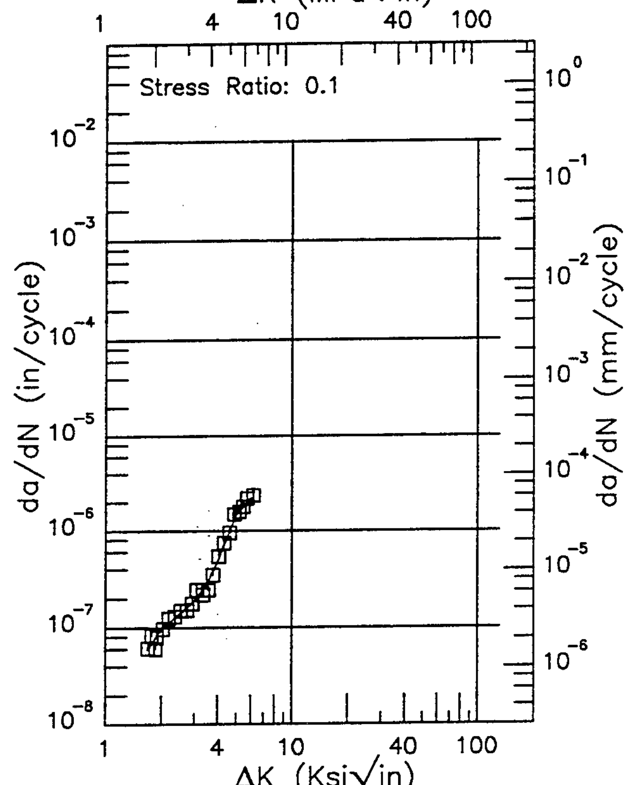
Figure 8.7.3.1.56 (Concluded)

R 7050

Condition/Ht: T74511
Form: 0.75 – 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Frequency: 5 – 10 Hz
Environment: LAB AIR; RT

Yield Strength: 66.7 – 69.6 ksi
Ult. Strength: 78.8 ksi
Specimen Thk: 0.248 – 0.249 in.
Specimen Width: 2.001 – 2.005 in.
Ref: DA004;DA005

(1 of 2)



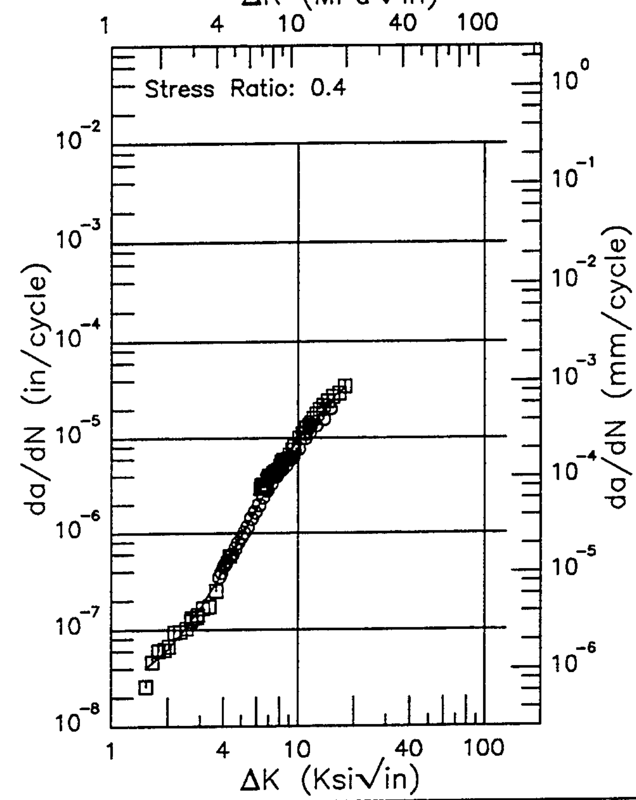
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.68 (min)	0.0596
2.	0.0960
2.5	0.139
3.	0.188
3.5	0.279
4.	0.476
5.	1.48
6.	2.23
6.16 (max)	2.17

RMS % Error
10.76

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.53 (min)	0.0408
1.6	0.0433
2.	0.0624
2.5	0.102
3.	0.167
3.5	0.265
4.	0.410
5.	0.899
6.	1.78
7.	3.19
8.	5.13
9.	7.40
10.	9.71
13.	16.7
16.	28.6
17.91 (max)	33.2

RMS % Error
15.20

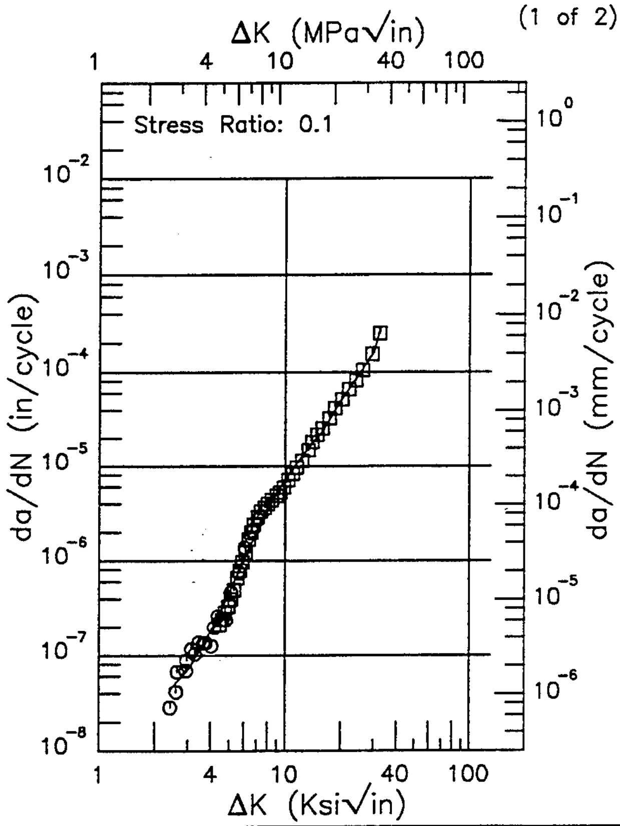
Life Prediction Ratio Summary

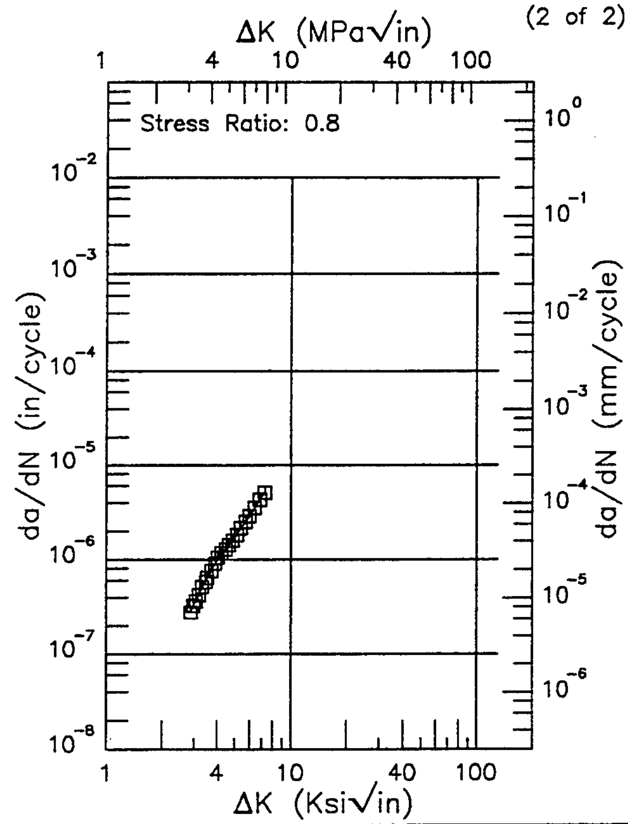
0. .5 .8 1.25 2.

Figure 8.7.3.1.57

Condition/Ht: T74511
Form: 1 in. Extrusion
Specimen Type: CT
Orientation: L—T
Frequency: 20 Hz
Environment: LAB AIR; RT

Yield Strength: 77 ksi
Ult. Strength:
Specimen Thk: 0.325 in.
Specimen Width: 2 – 2.002 in.
Ref: SW001



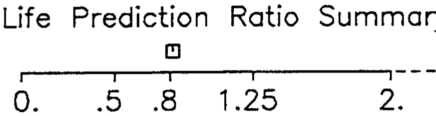


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.41 (min)	0.0451
2.5	0.0474
3.	0.0700
3.5	0.112
4.	0.183
5.	0.460
6.	1.02
7.	1.98
8.	3.40
9.	5.25
10.	7.39
13.	14.6
16.	24.6
20.	49.9
25.	95.9
30.	158.
32.35 (max)	255.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.86 (min)	0.281
3.	0.340
3.5	0.626
4.	0.985
5.	1.71
6.	2.89
7.	4.65
7.22 (max)	5.08

RMS % Error
20.09

Life Prediction Ratio Summary



RMS % Error
1.54

Life Prediction Ratio Summary

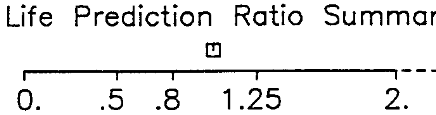


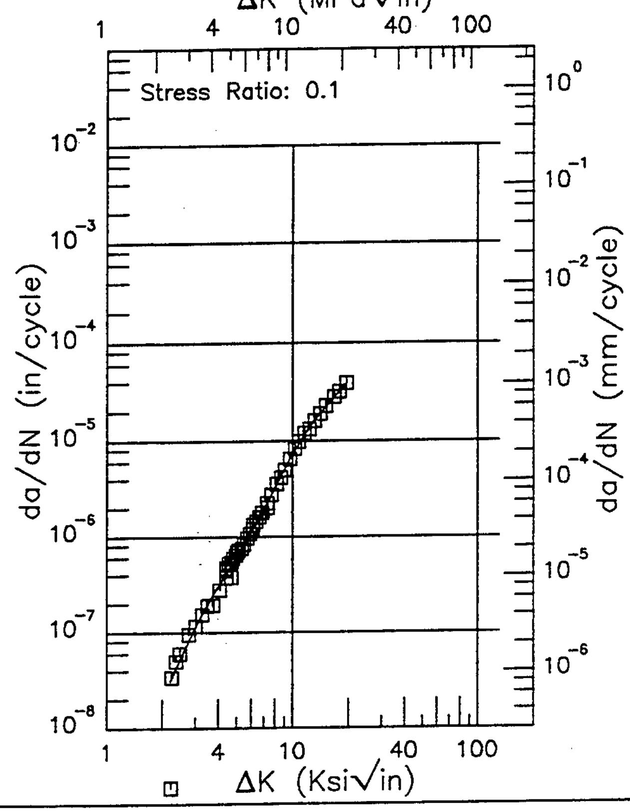
Figure 8.7.3.1.58

R 7050

Condition/Ht: T74511
Form: 0.75 – 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Frequency: 20 Hz
Environment: LAB AIR; RT

Yield Strength: 66.7 – 69.6 ksi
Ult. Strength: 78.8 ksi
Specimen Thk: 0.248 – 0.249 in.
Specimen Width: 2.004 – 2.006 in.
Ref: DA005;DA004

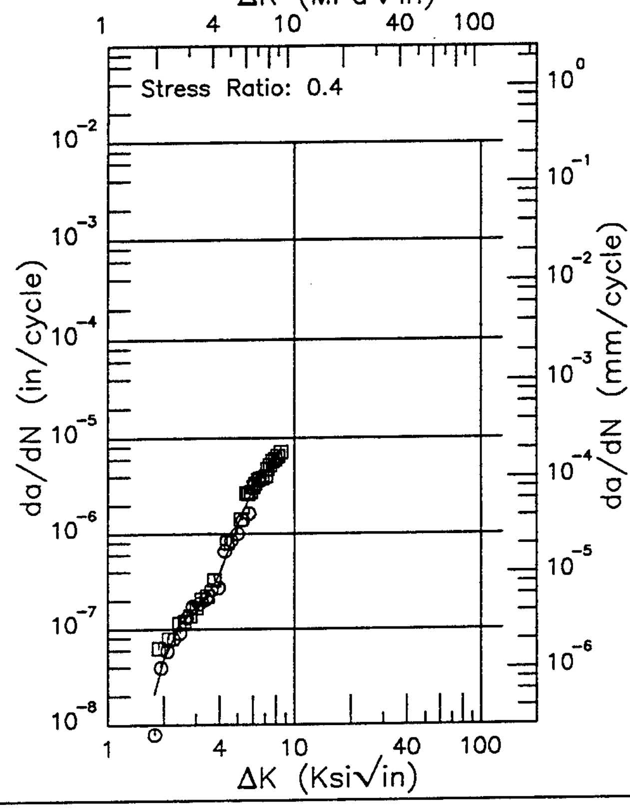
(1 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.21 (min)	0.0309
2.5	0.0542
3.	0.113
3.5	0.194
4.	0.301
5.	0.611
6.	1.11
7.	1.94
8.	3.24
9.	5.06
10.	7.38
13.	15.8
16.	25.5
19.44 (max)	38.7

RMS % Error	Life Prediction Ratio Summary
16.15	0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.78 (min)	0.0209
2.	0.0480
2.5	0.116
3.	0.172
3.5	0.242
4.	0.380
5.	1.23
6.	2.99
7.	4.39
8.	5.97
8.46 (max)	7.53

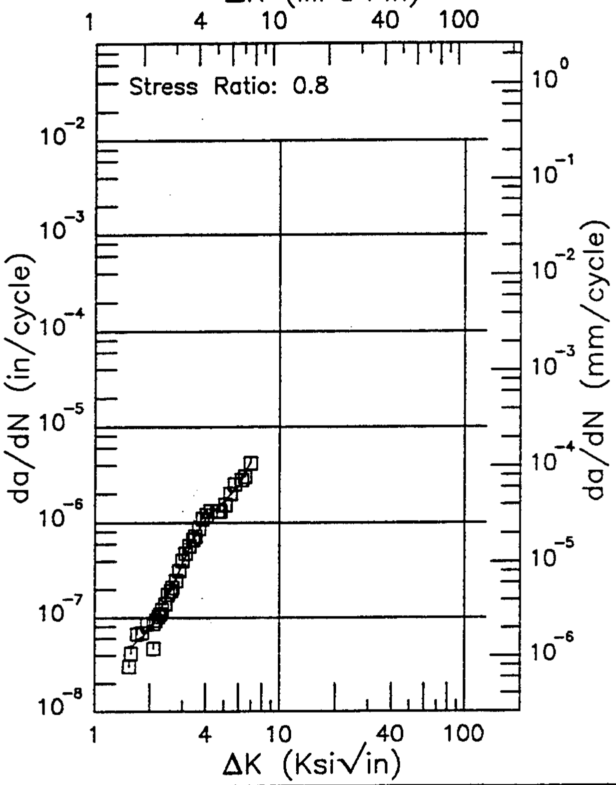
RMS % Error	Life Prediction Ratio Summary
23.55	0. .5 .8 1.25 2.

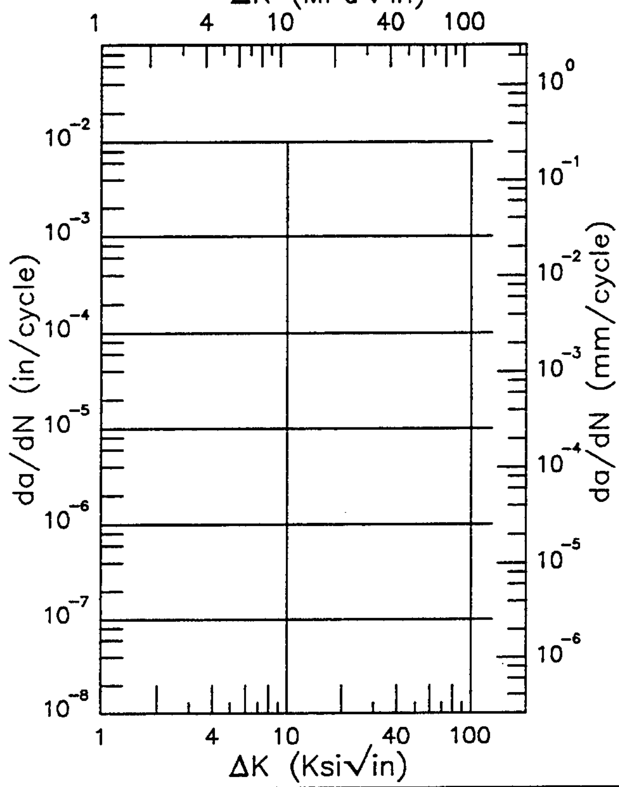
Figure 8.7.3.1.59

Condition/Ht: T74511
Form: 0.75 – 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Frequency: 20 Hz
Environment: LAB AIR; RT

Yield Strength: 66.7 – 69.6 ksi
Ult. Strength: 78.8 ksi
Specimen Thk: 0.248 – 0.249 in.
Specimen Width: 2.004 – 2.006 in.
Ref: DA005;DA004

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.53 (min)	0.0491
1.6	0.0498
2.	0.0761
2.5	0.173
3.	0.379
3.5	0.708
4.	1.10
5.	1.69
6.	2.42
6.95 (max)	4.33

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
13.89

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

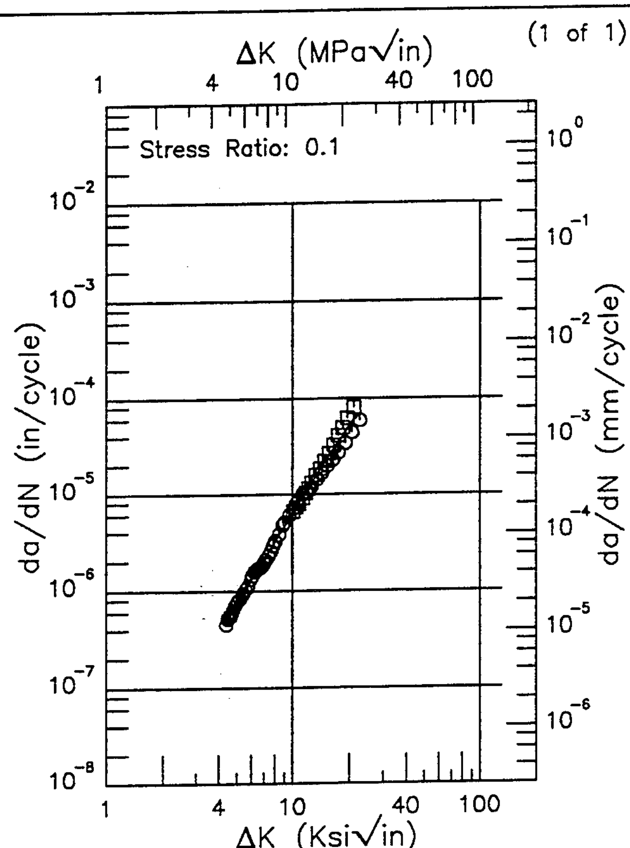
Figure 8.7.3.1.59 (Concluded)

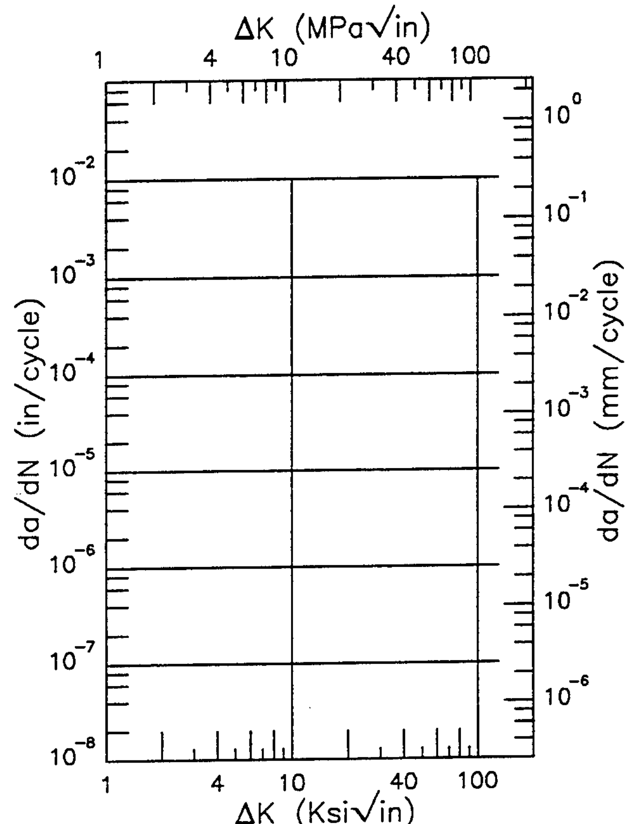
R 7050

Condition/Ht: T74511
Form: 0.75 – 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Frequency: 1 Hz
Environment: DIST WATER; RT

Yield Strength: 66.7 – 69.6 ksi
Ult. Strength: 78.8 ksi
Specimen Thk: 0.251 in.
Specimen Width: 2 – 2.006 in.
Ref: DA004;DA005

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.37 (min)	0.476
5.	0.735
6.	1.30
7.	2.11
8.	3.18
9.	4.57
10.	6.33
13.	14.3
16.	27.5
20.	52.1
22.54 (max)	69.4

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
11.05

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.7.3.1.60

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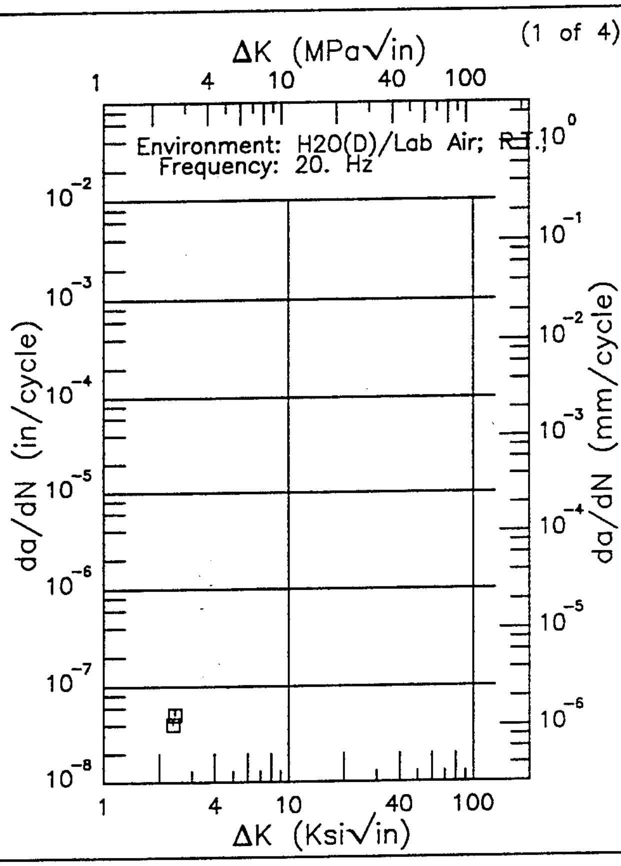
EF 7050

Condition/Ht: T74511
Form: 0.75 – 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.1

Yield Strength: 66.7 – 69.6 ksi
Ult. Strength: 78.8 ksi
Specimen Thk: 0.25 – 0.252 in.
Specimen Width: 2 – 2.007 in.
Ref: DA005;DA004

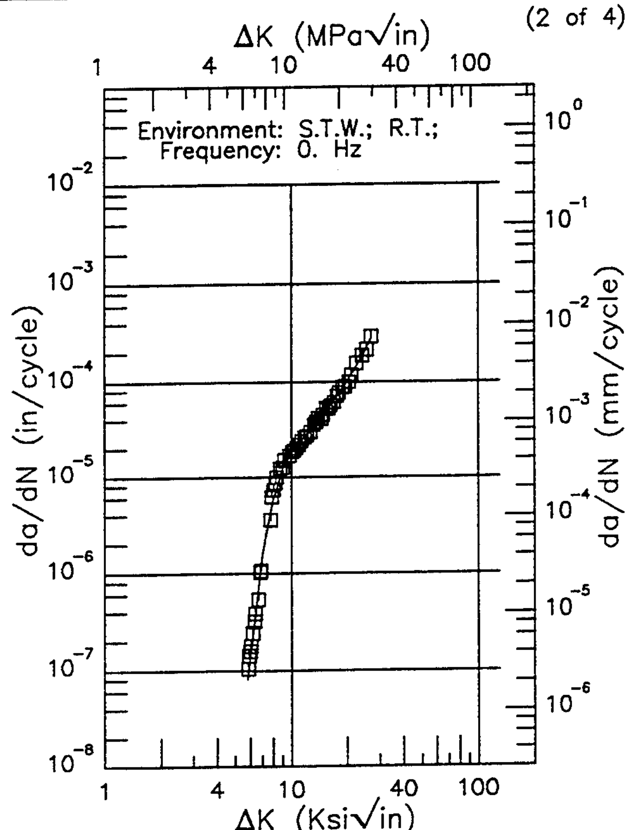
(1 of 4)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

(2 of 4)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.83 (min)	0.0813
6.	0.142
7.	1.57
8.	5.93
9.	12.4
10.	18.7
13.	32.8
16.	53.8
20.	102.
25.	210.
26.87 (max)	277.

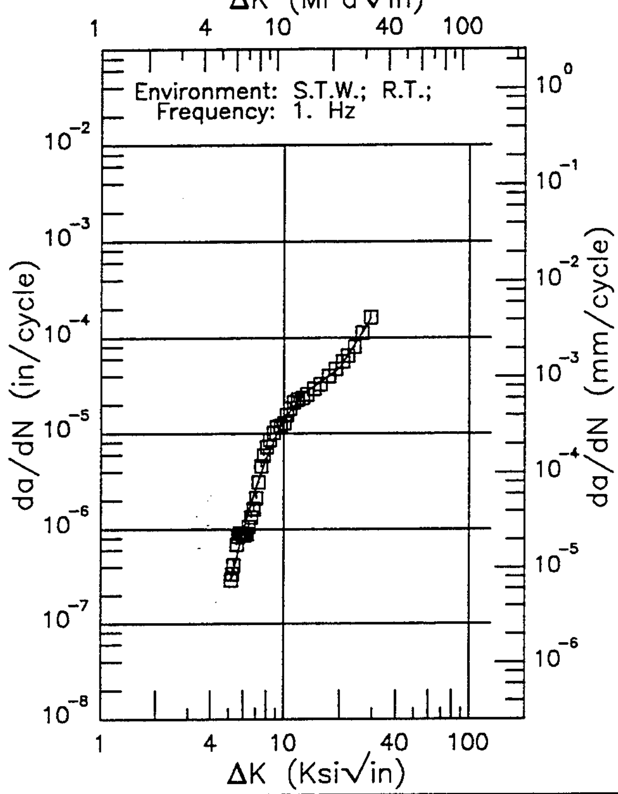
RMS % Error	Life Prediction Ratio Summary
12.77	0. .5 .8 1.25 2.

Figure 8.7.3.1.61

Condition/Ht: T74511
Form: 0.75 – 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.1

Yield Strength: 66.7 – 69.6 ksi
Ult. Strength: 78.8 ksi
Specimen Thk: 0.25 – 0.252 in.
Specimen Width: 2 – 2.007 in.
Ref: DA005;DA004

(3 of 4)



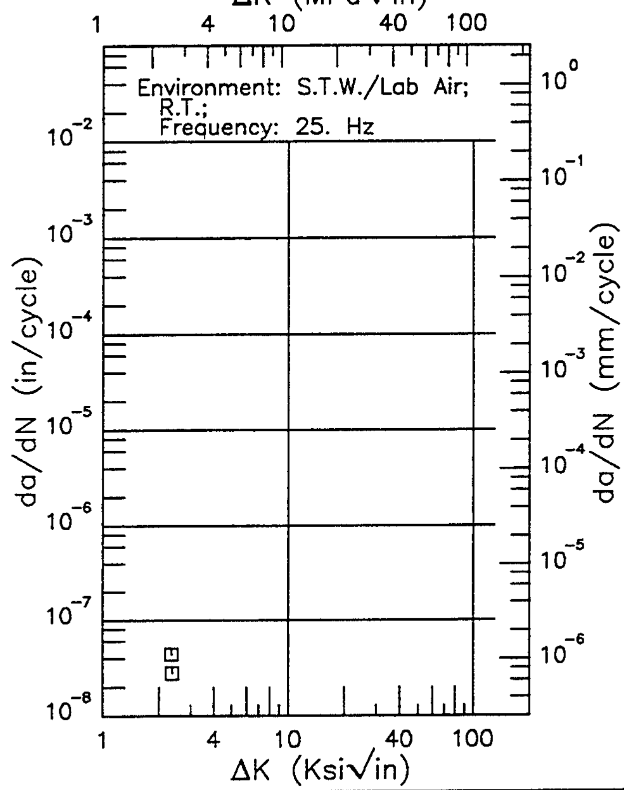
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.14 (min)	0.289
6.	0.969
7.	2.67
8.	5.52
9.	9.39
10.	13.9
13.	26.9
16.	35.0
20.	48.8
25.	96.2
29.21 (max)	159.

RMS % Error
18.06

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(4 of 4)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

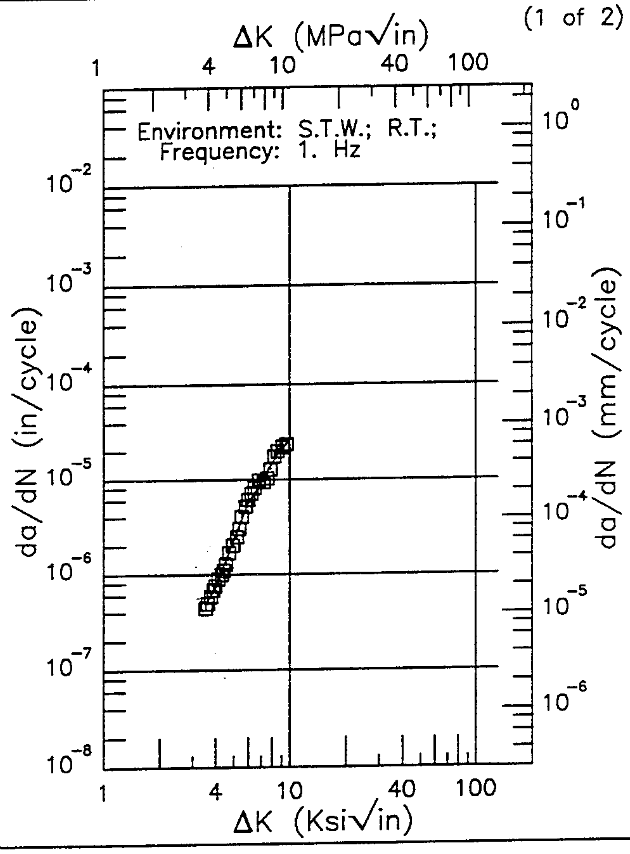
Figure 8.7.3.1.61 (Concluded)

EF 7050

Condition/Ht: T74511
Form: 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.4

Yield Strength: 66.7 ksi
Ult. Strength:
Specimen Thk: 0.249 in.
Specimen Width: 2.006 in.
Ref: DA005

(1 of 2)

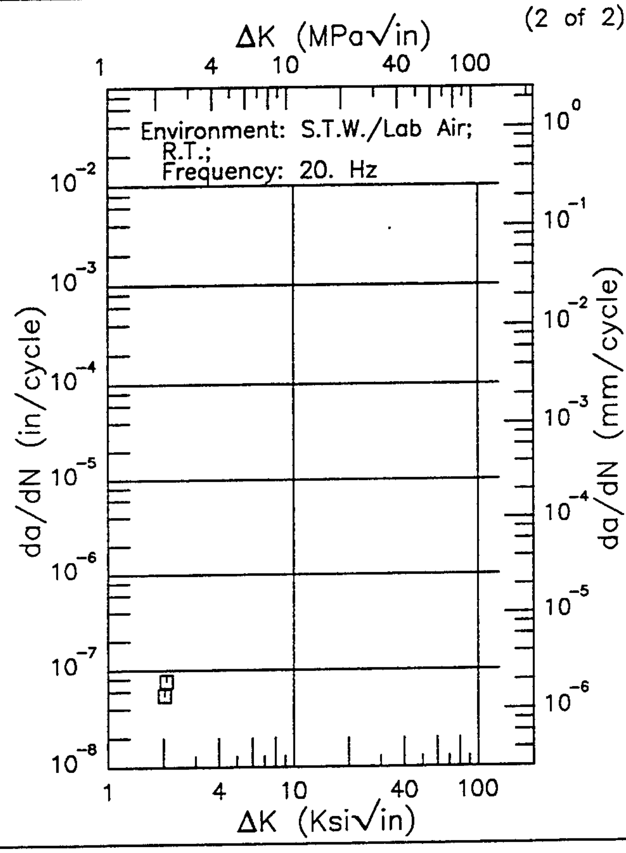


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.53 (min)	0.502
4.	0.716
5.	2.32
6.	5.63
7.	9.56
8.	14.9
9.	21.2
9.60 (max)	23.8

RMS % Error
8.56

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error

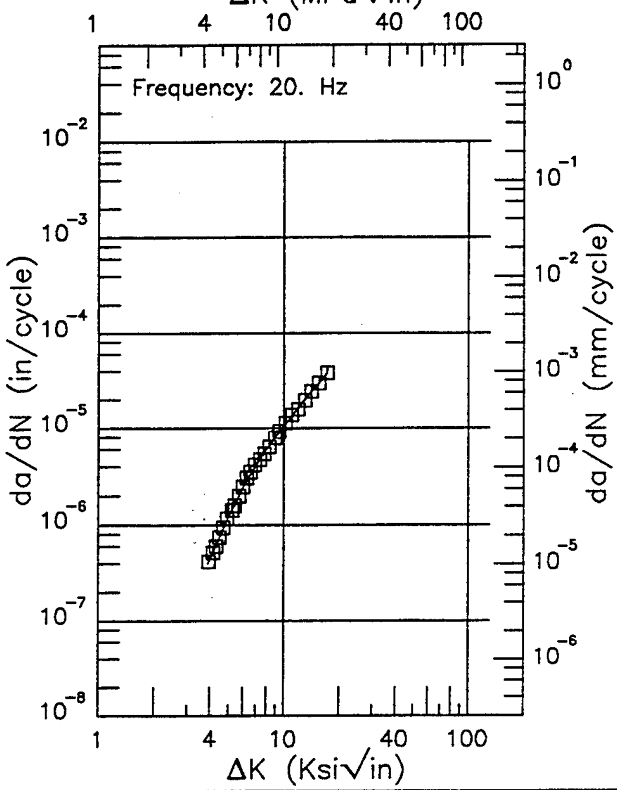
Life Prediction Ratio Summary
0. .5 .8 1.25 2.

Figure 8.7.3.1.62

Condition/Ht: T74511
Form: 1 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.5
Environment: LAB AIR; RT

Yield Strength: 77 ksi
Ult. Strength:
Specimen Thk: 0.323 in.
Specimen Width: 2 in.
Ref: SW001

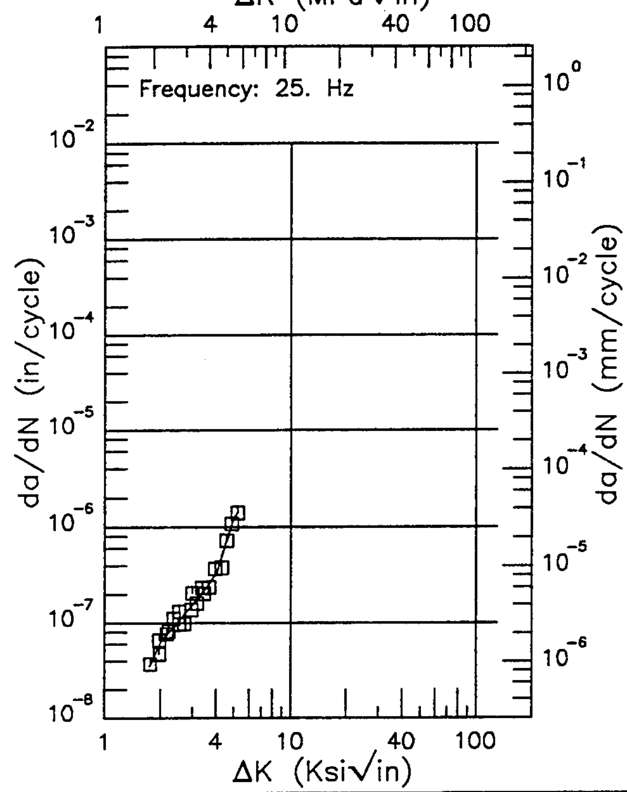
(1 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.91 (min)	0.399
4.	0.445
5.	1.21
6.	2.45
7.	4.09
8.	5.99
9.	8.11
10.	10.5
13.	19.9
16.	32.3
17.08 (max)	37.5

RMS % Error	Life Prediction Ratio Summary
2.95	0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.75 (min)	0.0351
2.	0.0630
2.5	0.104
3.	0.156
3.5	0.226
4.	0.327
5.	1.23
5.19 (max)	1.39

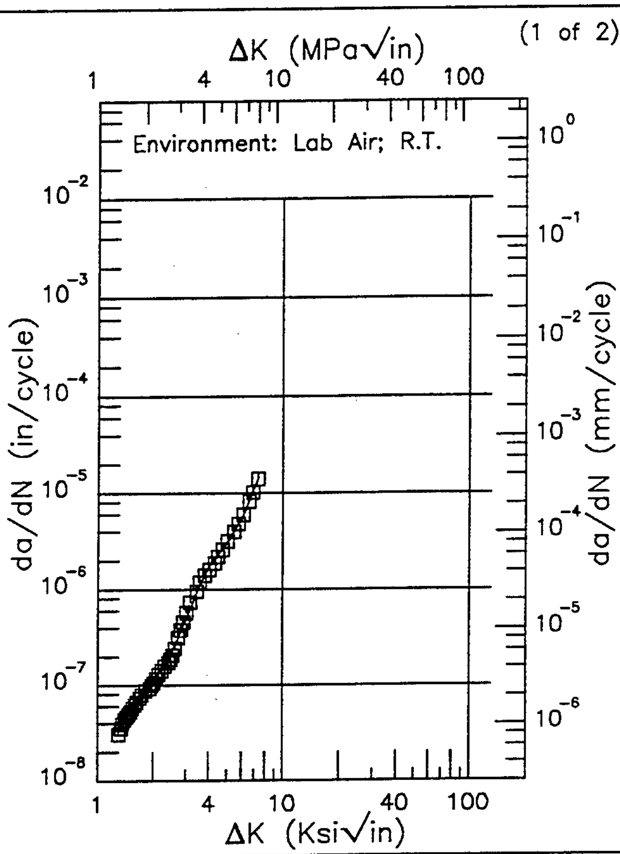
RMS % Error	Life Prediction Ratio Summary
14.74	0. .5 .8 1.25 2.

Figure 8.7.3.1.63

E 7050

Condition/Ht: T74511
Form: 0.75 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.8
Frequency:

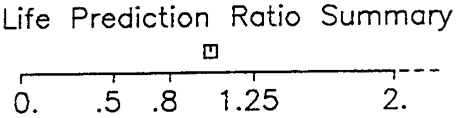
Yield Strength: 69.6 ksi
Ult. Strength: 78.8 ksi
Specimen Thk: 0.25 in.
Specimen Width: 2 in.
Ref: DA004

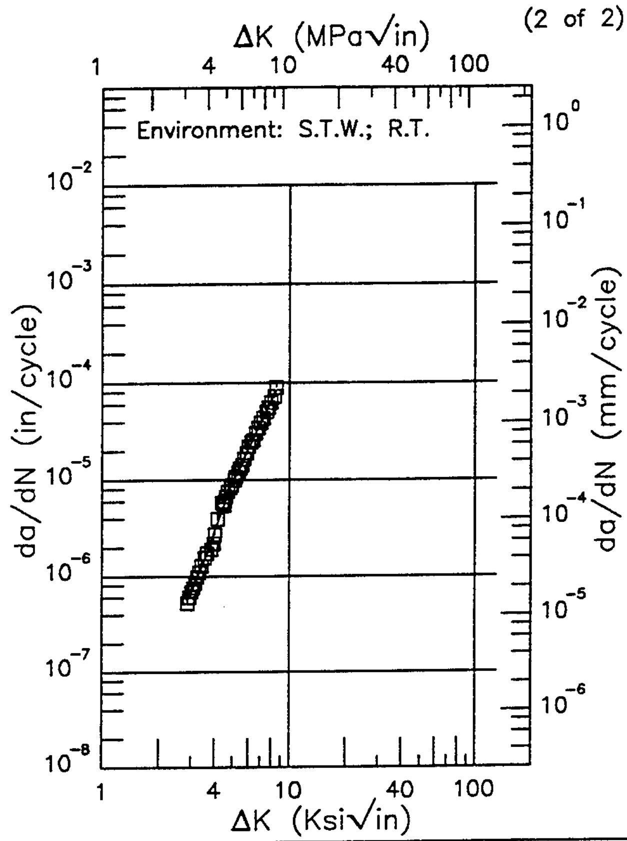


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.29 (min)	0.0351
1.3	0.0358
1.6	0.0596
2.	0.108
2.5	0.225
3.	0.486
3.5	0.995
4.	1.72
5.	3.03
6.	5.36
7.	11.4
7.31 (max)	13.5

RMS % Error 7.86

Life Prediction Ratio Summary





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.85 (min)	0.566
3.	0.674
3.5	1.38
4.	2.91
5.	9.49
6.	20.5
7.	38.0
8.	65.8
8.49 (max)	83.5

RMS % Error 6.87

Life Prediction Ratio Summary

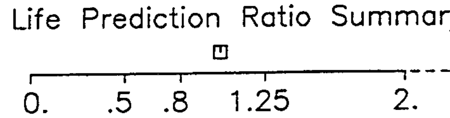
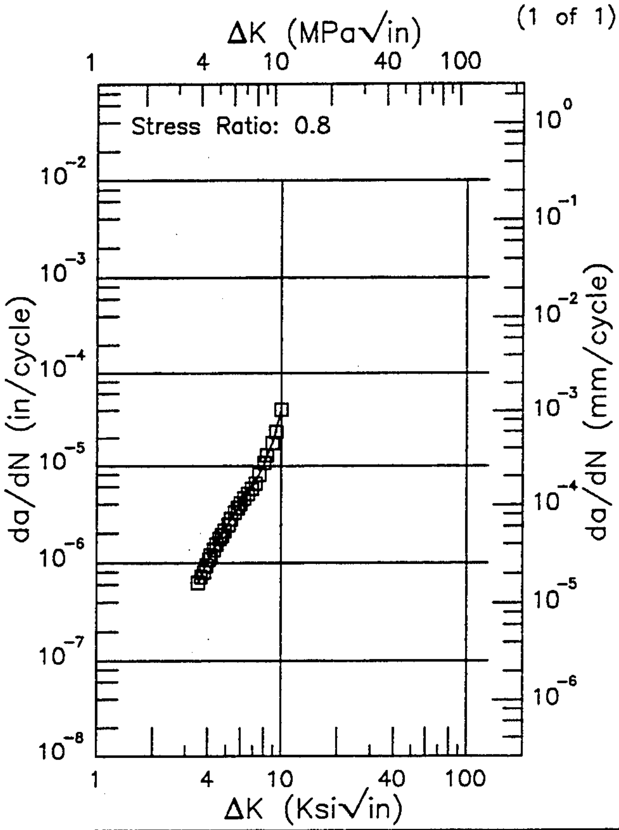


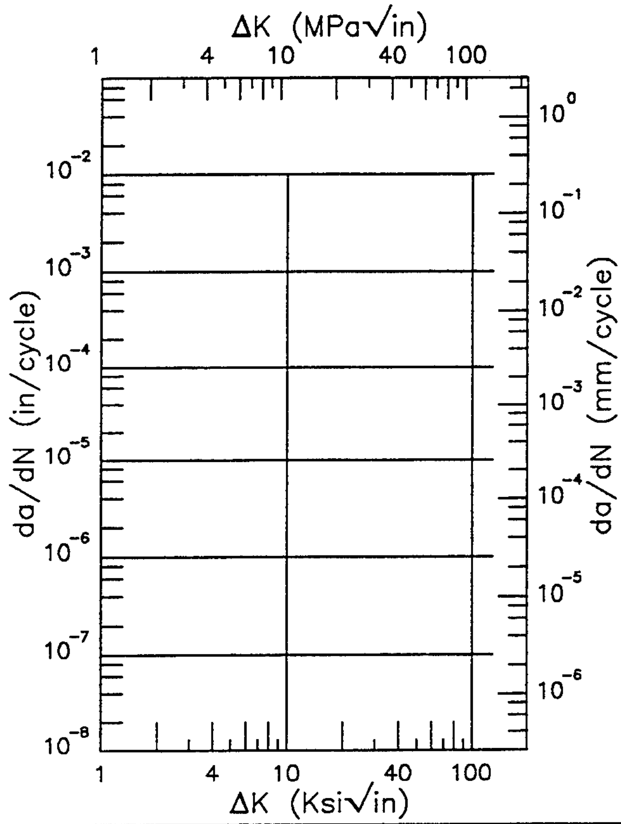
Figure 8.7.3.1.64

Condition/Ht: T74511
Form: 1 in. Extrusion
Specimen Type: CT
Orientation: L-T
Frequency: 20 Hz
Environment: LAB AIR; RT

Yield Strength: 77 ksi
Ult. Strength:
Specimen Thk: 0.321 in.
Specimen Width: 2 in.
Ref: SW001

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.53 (min)	0.620
4.	1.02
5.	2.28
6.	3.95
7.	6.18
8.	10.1
9.	18.8
9.93 (max)	38.5

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
2.98

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

Figure 8.7.3.1.65

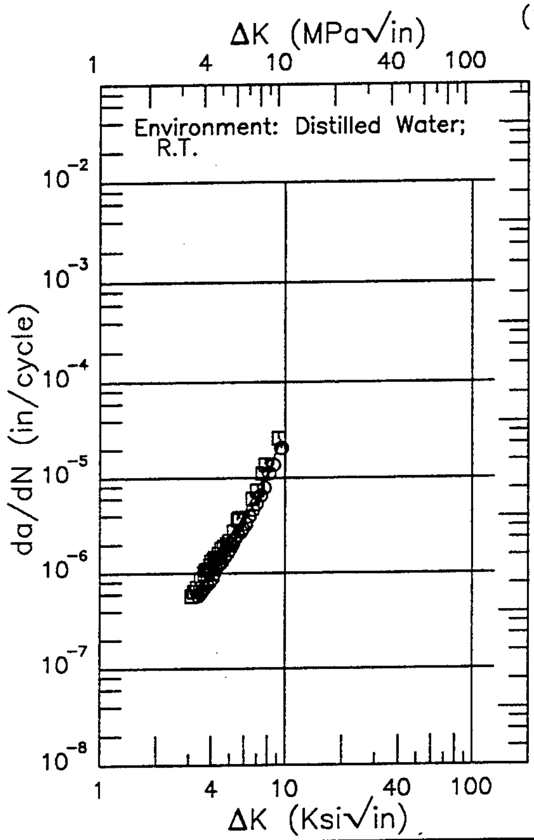
7050

E

Condition/Ht: T74511
Form: 0.75 – 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.8
Frequency: 1 Hz

Yield Strength: 66.7 – 69.6 ksi
Ult. Strength: 78.8 ksi
Specimen Thk: 0.249 – 0.251 in.
Specimen Width: 2 – 2.007 in.
Ref: DA004;DA005

(1 of 2)

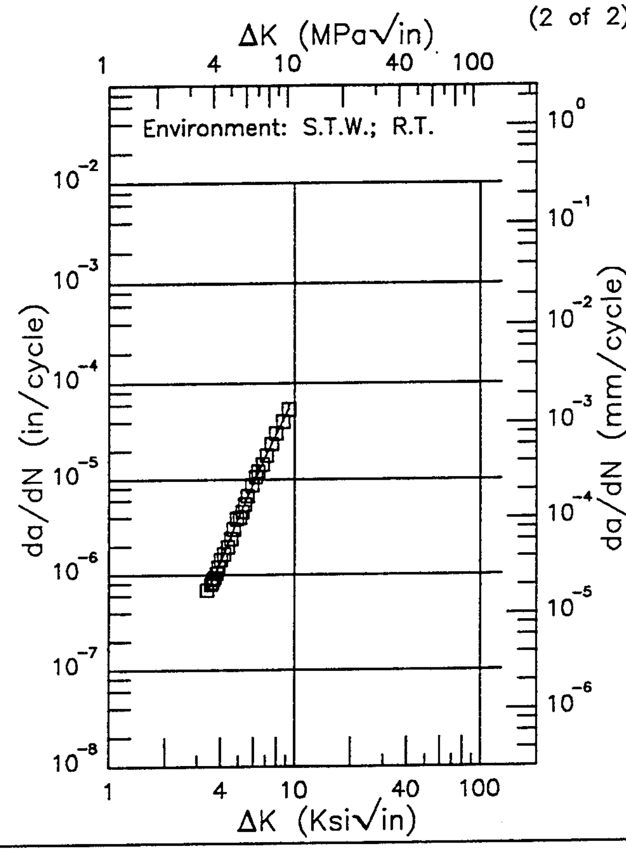


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.12 (min)	0.540
3.5	0.758
4.	1.09
5.	1.95
6.	3.41
7.	6.11
8.	11.0
9.	19.6
9.47 (max)	25.4

RMS % Error: 17.33

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.39 (min)	0.670
3.5	0.753
4.	1.33
5.	3.92
6.	9.05
7.	17.4
8.	30.3
9.	48.1
9.25 (max)	53.0

RMS % Error: 4.01

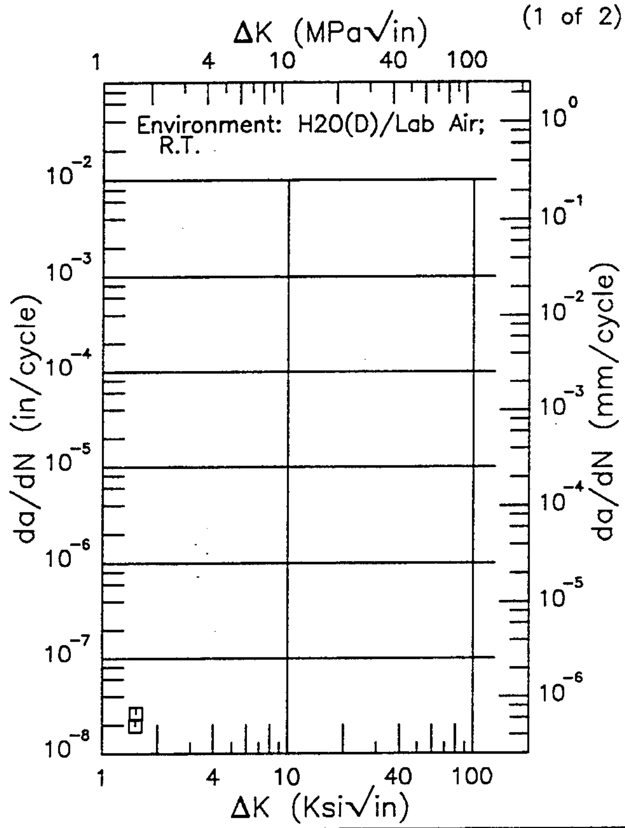
Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

Figure 8.7.3.1.66

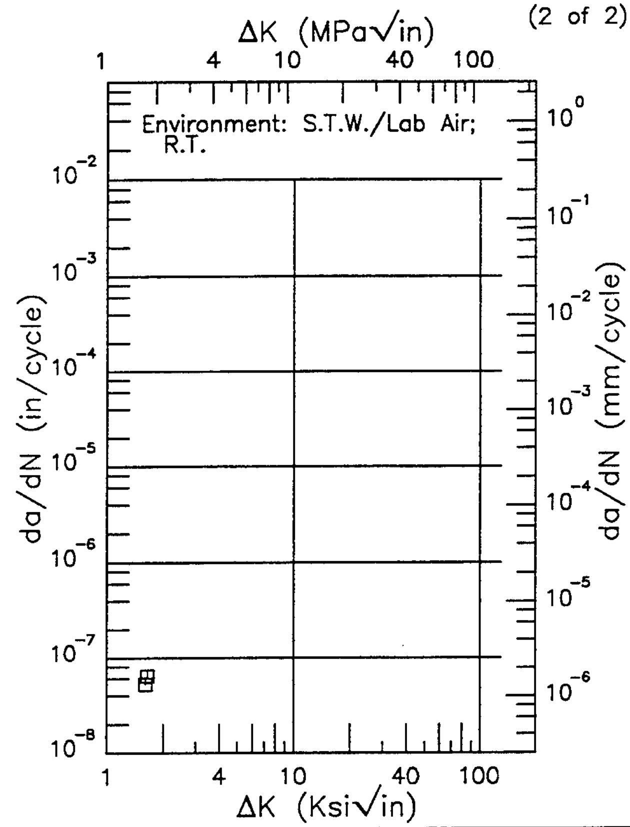
Condition/Ht: T74511
Form: 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.8
Frequency: 5 – 20 Hz

Yield Strength: 66.7 ksi
Ult. Strength:
Specimen Thk: 0.25 – 0.251 in.
Specimen Width: 2.006 – 2.007 in.
Ref: DA005

(1 of 2)



(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)	ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary	RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.		0. .5 .8 1.25 2.

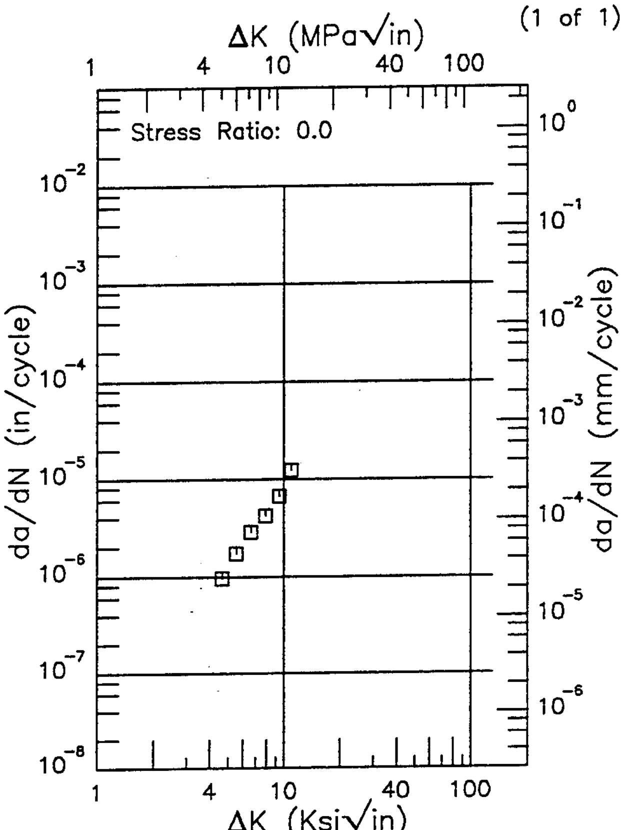
Figure 8.7.3.1.67

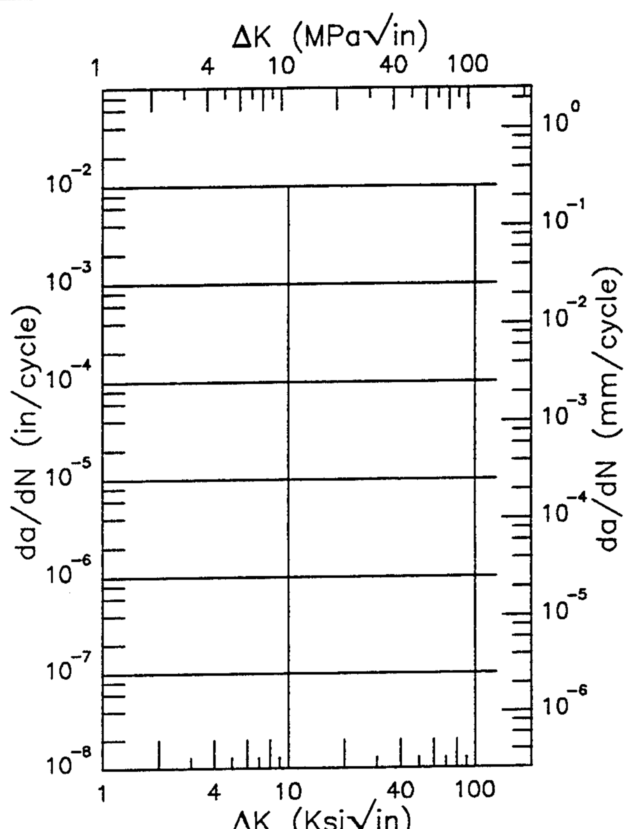
R 7050

Condition/Ht: T74511
Form: 0.75 in. Extrusion
Specimen Type: CCP (max load specified)
Orientation: L-T
Frequency: 3 - 5 Hz
Environment: LAB AIR; RT

Yield Strength: 69.6 ksi
Ult. Strength: 78.8 ksi
Specimen Thk: 0.19 in.
Specimen Width: 10.024 in.
Ref: DA004

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)	ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

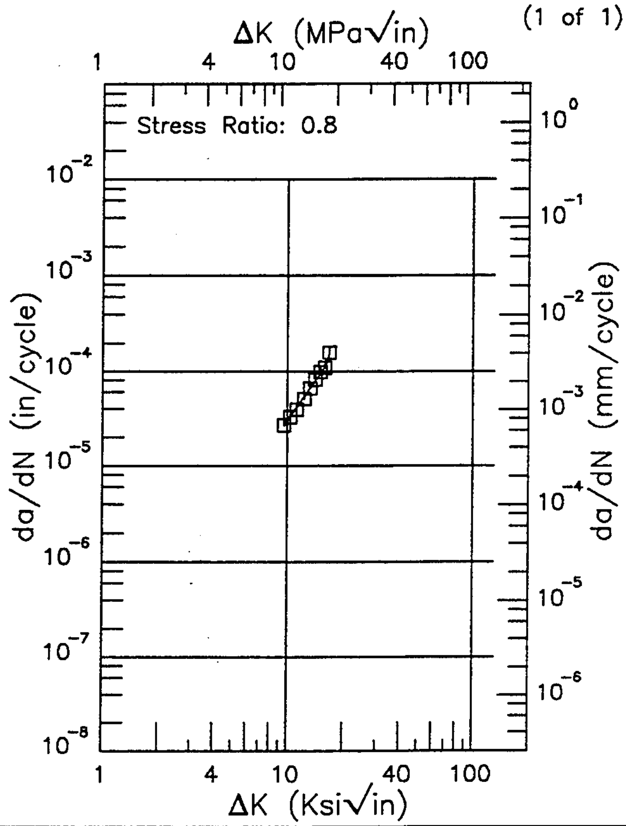
RMS % Error	Life Prediction Ratio Summary 0. .5 .8 1.25 2.	RMS % Error	Life Prediction Ratio Summary 0. .5 .8 1.25 2.

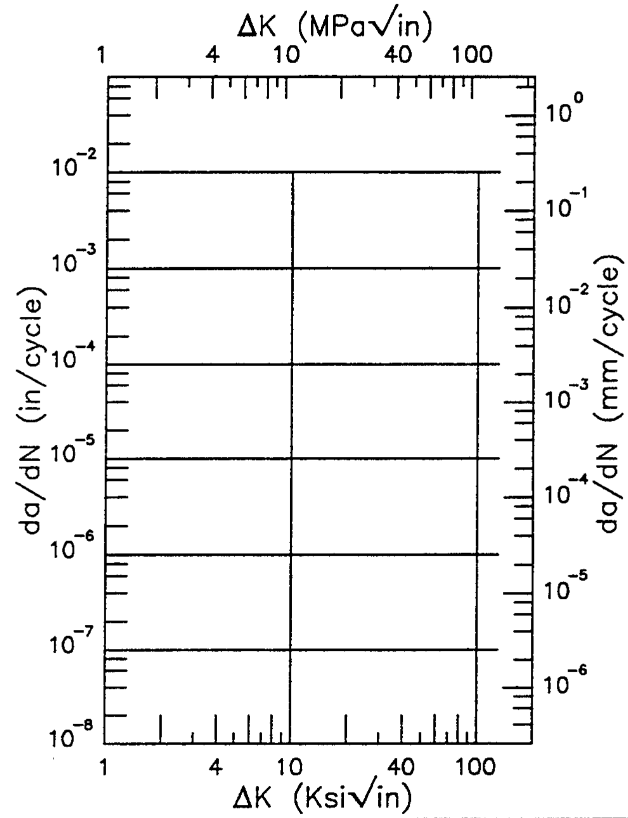
Figure 8.7.3.1.68

Condition/Ht: T74511
Form: 0.75 in. Extrusion
Specimen Type: CCP (max load specified)
Orientation: L-T
Frequency: 10 Hz
Environment: LAB AIR; RT

Yield Strength: 69.6 ksi
Ult. Strength: 78.8 ksi
Specimen Thk: 0.19 in.
Specimen Width: 10.024 in.
Ref: DA004

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
9.58 (min)	26.5
10.	29.6
13.	61.8
16.	114.
16.70 (max)	156.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
2.54

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

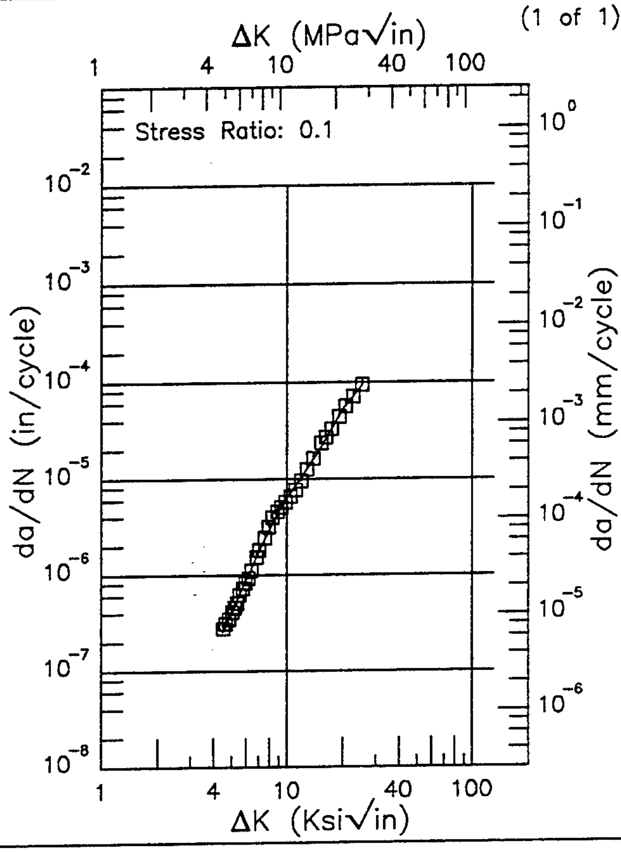
Figure 8.7.3.1.69

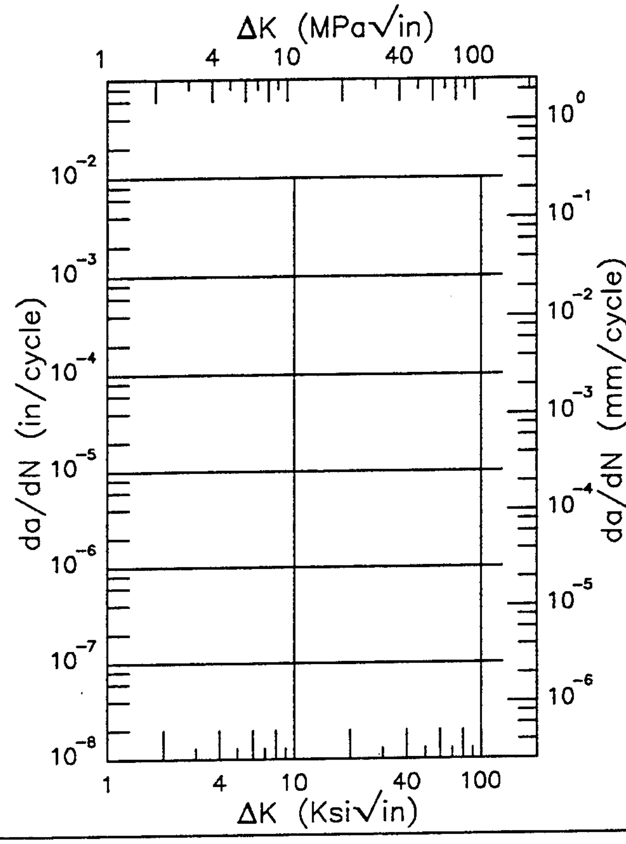
R ⊣ 7050 ⊢

Condition/Ht: T745111
Form: 1 in. Extrusion
Specimen Type: CT
Orientation: L–T
Frequency: 20 Hz
Environment: LAB AIR; RT

Yield Strength: 77 ksi
Ult. Strength:
Specimen Thk: 0.325 in.
Specimen Width: 2 in.
Ref: SW001

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.48 (min)	0.255
5.	0.402
6.	0.885
7.	1.72
8.	2.95
9.	4.55
10.	6.37
13.	12.9
16.	24.9
20.	52.8
25.	89.8
25.33 (max)	93.8

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
5.74

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

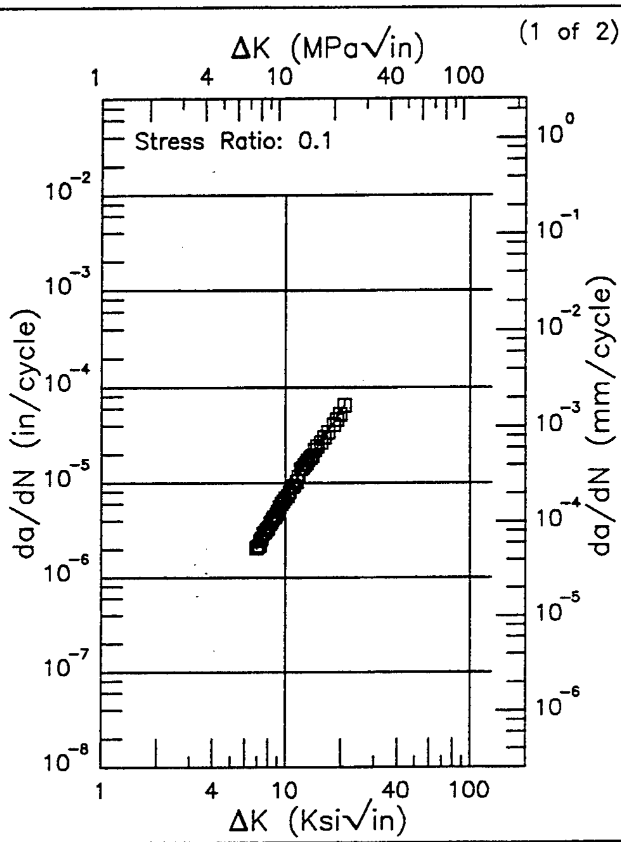
Life Prediction Ratio Summary

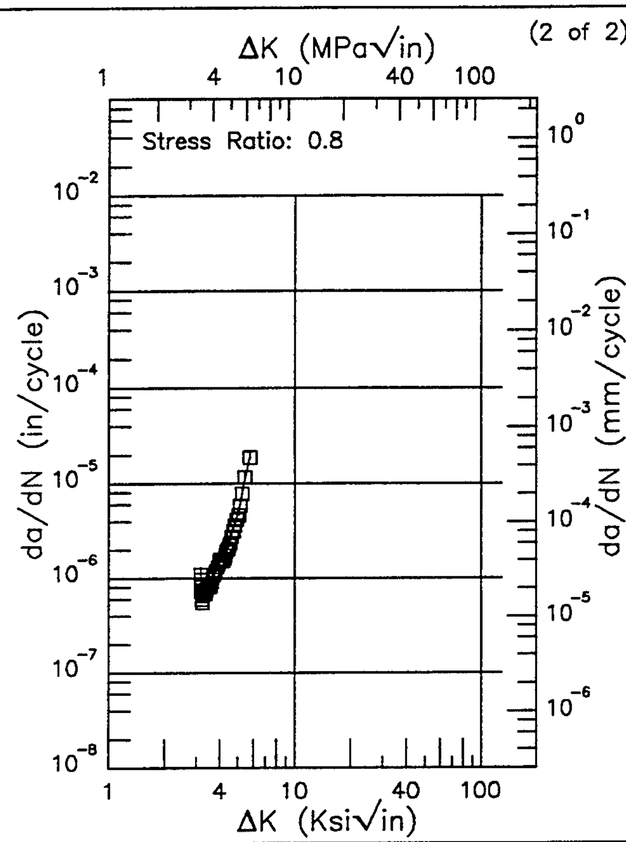
0. .5 .8 1.25 2.

Figure 8.7.3.1.70

Condition/Ht: T7452
Form: 4 in. Forging
Specimen Type: CT
Orientation: L–T
Frequency: 5 Hz
Environment: LAB AIR; RT

Yield Strength: 73.4 ksi
Ult. Strength: 80.4 ksi
Specimen Thk: 0.5 in.
Specimen Width: 1.999 – 2 in.
Ref: DA004





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.95 (min)	1.99
7.	2.05
8.	3.38
9.	4.95
10.	6.88
13.	16.3
16.	28.8
20.	55.8
20.71 (max)	63.7

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.13 (min)	0.737
3.5	0.814
4.	1.45
5.	4.72
5.74 (max)	18.6

RMS % Error	Life Prediction Ratio Summary
2.70	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
13.70	0. .5 .8 1.25 2.

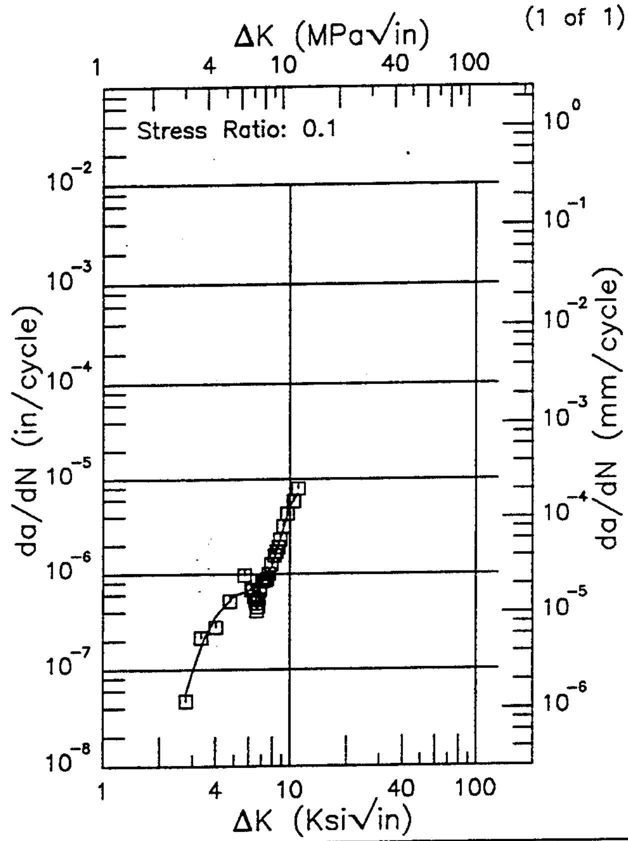
Figure 8.7.3.1.71

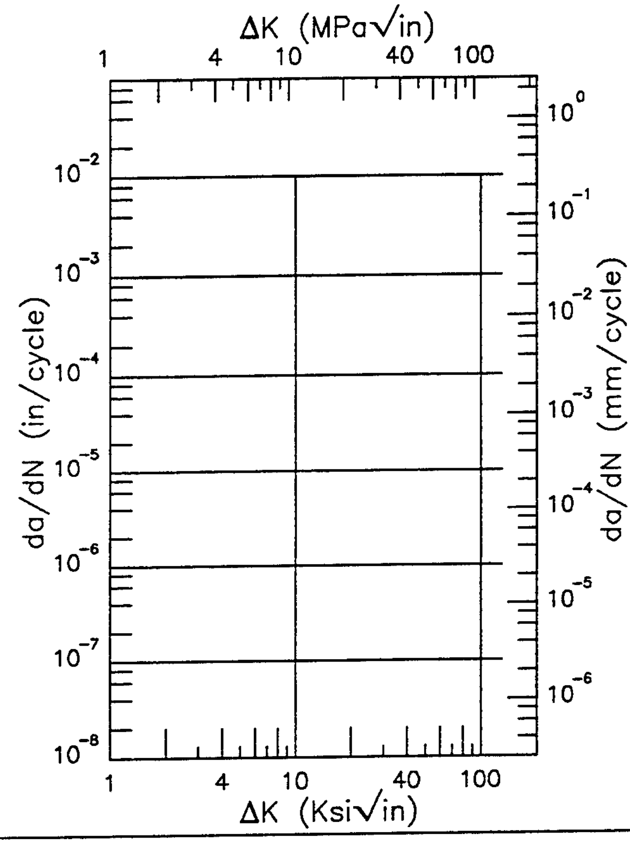
R 7050

Condition/Ht: T7452
Form: Forging
Specimen Type: CT
Orientation: L–T
Frequency: 5 Hz
Environment: LAB AIR; RT

Yield Strength: 72.2 ksi
Ult. Strength:
Specimen Thk: 0.253 in.
Specimen Width: 2.005 in.
Ref: DA005

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.76 (min)	0.0536
3.	0.0936
3.5	0.214
4.	0.357
5.	0.582
6.	0.671
7.	0.787
8.	1.22
9.	2.59
10.	5.20
10.97 (max)	7.05

ΔK (Ksi√in) da/dN (10^{-6}in/cycle)

RMS % Error 20.37

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

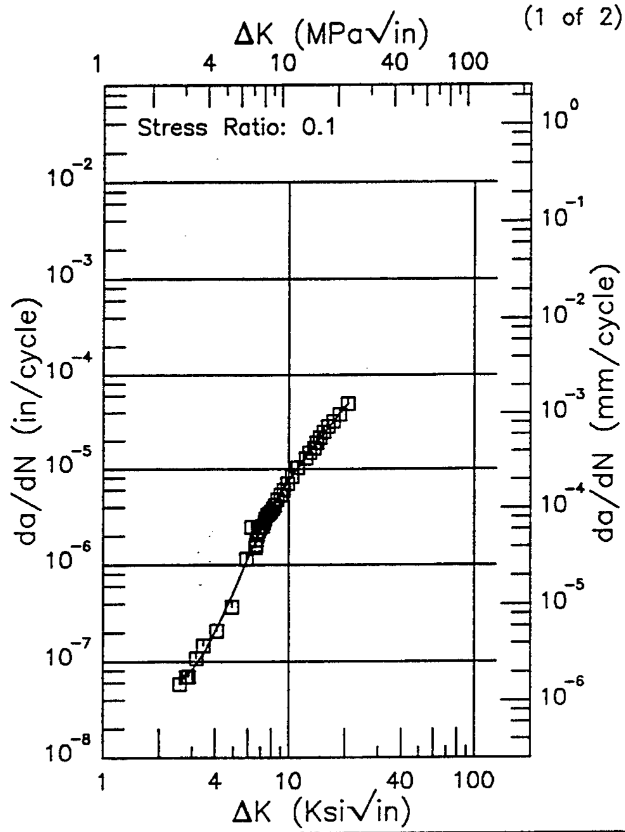
0. .5 .8 1.25 2.

Figure 8.7.3.1.72

Condition/Ht: T7452
Form: 4 in. Forging
Specimen Type: CT
Orientation: L–T
Frequency: 5 – 15 Hz
Environment: LAB AIR; RT

Yield Strength: 70.3 – 73.4 ksi
Ult. Strength: 80.4 ksi
Specimen Thk: 0.249 – 0.251 in.
Specimen Width: 2 – 2.008 in.
Ref: DA004;DA005

(1 of 2)



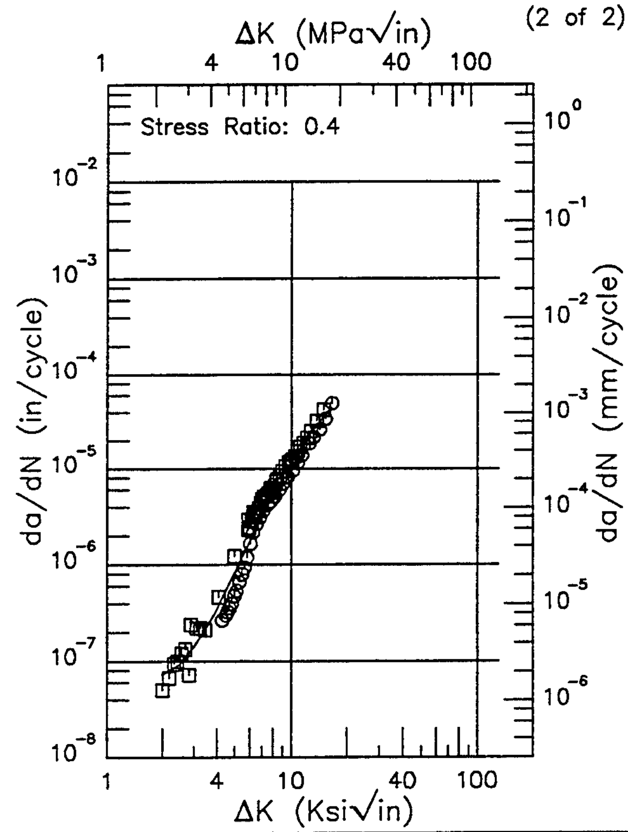
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.57 (min)	0.0662
3.	0.0824
3.5	0.125
4.	0.201
5.	0.518
6.	1.17
7.	2.25
8.	3.70
9.	5.47
10.	7.54
13.	15.4
16.	26.2
20.	45.5
20.56 (max)	48.5

RMS % Error 14.17

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.99 (min)	0.0734
2.	0.0736
2.5	0.0946
3.	0.142
3.5	0.224
4.	0.353
5.	0.828
6.	1.73
7.	3.21
8.	5.38
9.	8.25
10.	11.7
13.	25.0
16.	41.6
16.52 (max)	44.8

RMS % Error 31.38

Life Prediction Ratio Summary

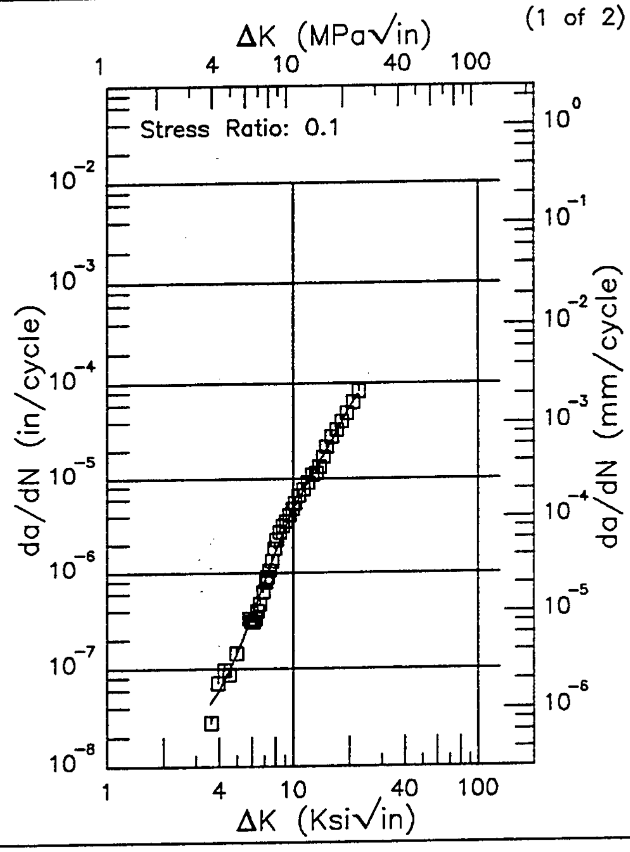
0. .5 .8 1.25 2.

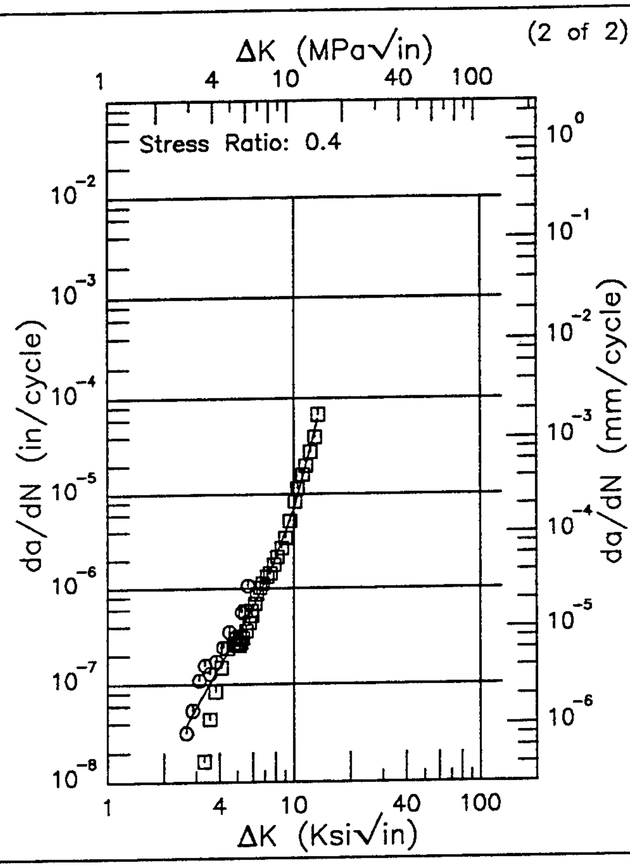
Figure 8.7.3.1.73

R 7050

Condition/Ht: T7452
Form: Forging
Specimen Type: CT
Orientation: L–T
Frequency: 20 Hz
Environment: LAB AIR; RT

Yield Strength: 70.3 – 72.2 ksi
Ult. Strength:
Specimen Thk: 0.247 – 0.251 in.
Specimen Width: 2.007 – 2.008 in.
Ref: DA005





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.60 (min)	0.0444
4.	0.0593
5.	0.144
6.	0.360
7.	0.823
8.	1.67
9.	3.00
10.	4.82
13.	12.6
16.	25.7
20.	57.7
22.29 (max)	78.6

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.64 (min)	0.0367
3.	0.0577
3.5	0.0969
4.	0.150
5.	0.319
6.	0.621
7.	1.16
8.	2.13
9.	3.87
10.	7.08
13.	47.2
13.42 (max)	62.4

RMS % Error	Life Prediction Ratio Summary
14.80	0. .5 .8 1.25 2.

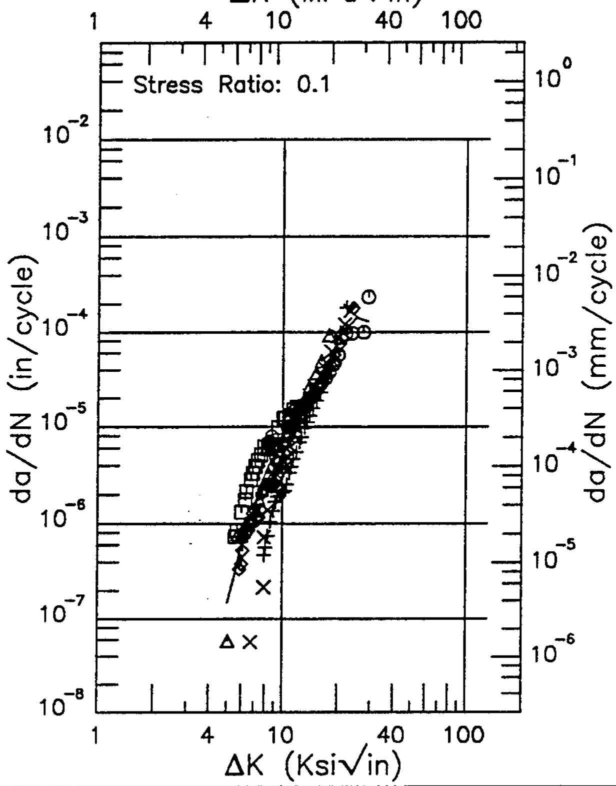
RMS % Error	Life Prediction Ratio Summary
33.02	0. .5 .8 1.25 2.

Figure 8.7.3.1.74

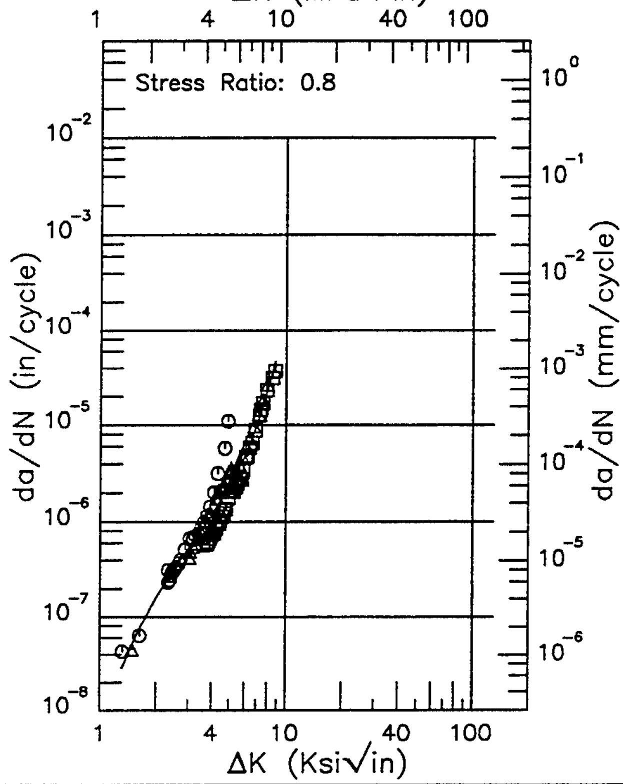
Condition/Ht: T7452
Form: 4 in. Forging
Specimen Type: CT
Orientation: L–T
Frequency: 1 Hz
Environment: DIST WATER; RT

Yield Strength: 70.3 – 73.4 ksi
Ult. Strength: 80.4 ksi
Specimen Thk: 0.247 – 0.25 in.
Specimen Width: 1.996 – 2.008 in.
Ref: DA004;DA005

(1 of 2)



(2 of 2)

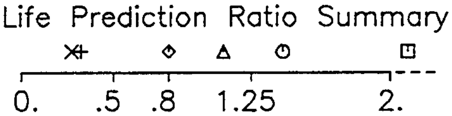


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.05 (min)	0.149
6.	0.616
7.	1.47
8.	2.54
9.	3.71
10.	5.04
13.	12.0
16.	31.5
20.	86.0
25.	142.
28.86 (max)	130.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.31 (min)	0.0281
1.6	0.0701
2.	0.160
2.5	0.319
3.	0.529
3.5	0.803
4.	1.17
5.	2.34
6.	4.66
7.	9.90
8.	23.1
8.75 (max)	46.0

RMS % Error
60.03

Life Prediction Ratio Summary



RMS % Error
53.53

Life Prediction Ratio Summary

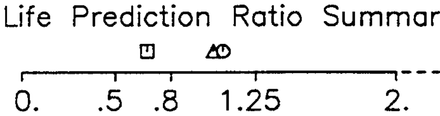


Figure 8.7.3.1.75

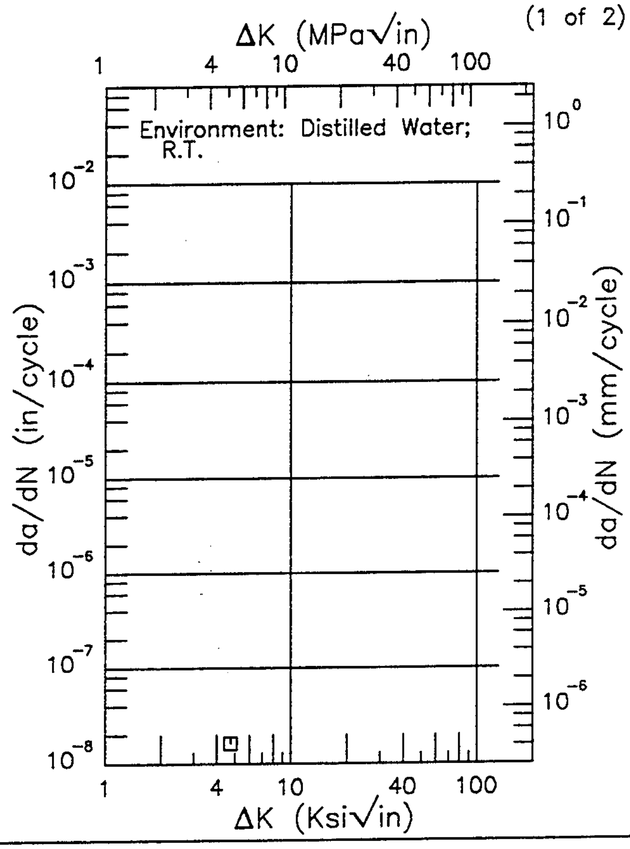
7050

EF

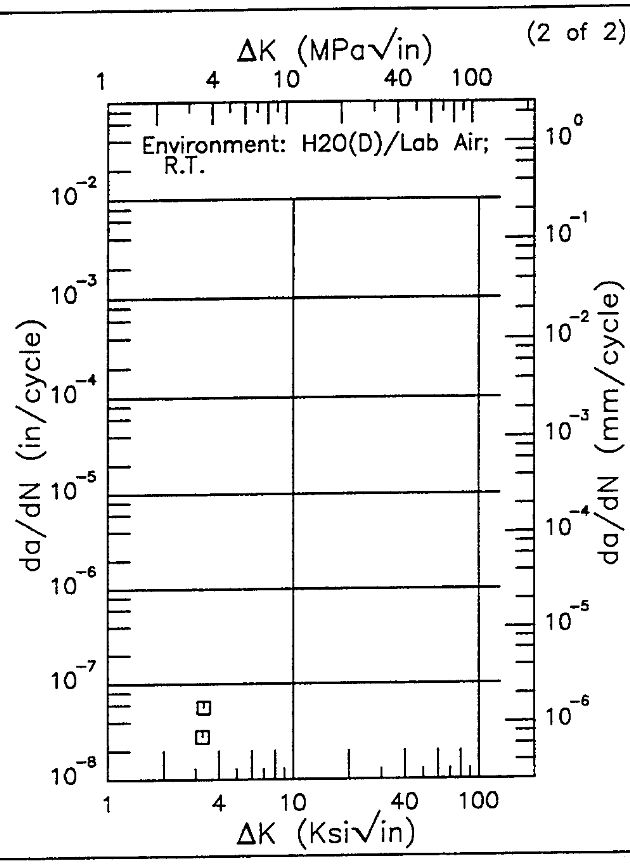
Condition/Ht: T7452
Form: Forging
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.1

Yield Strength: 70.3 – 72.2 ksi
Ult. Strength:
Specimen Thk: 0.247 in.
Specimen Width: 2.008 in.
Ref: DA005

(1 of 2)



(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)	ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

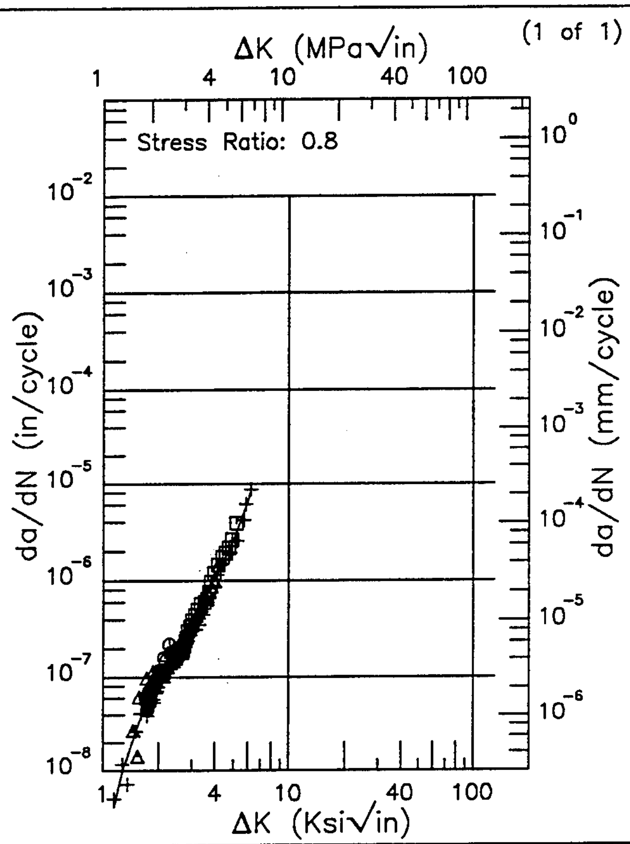
RMS % Error	Life Prediction Ratio Summary (0. .5 .8 1.25 2.)	RMS % Error	Life Prediction Ratio Summary (0. .5 .8 1.25 2.)

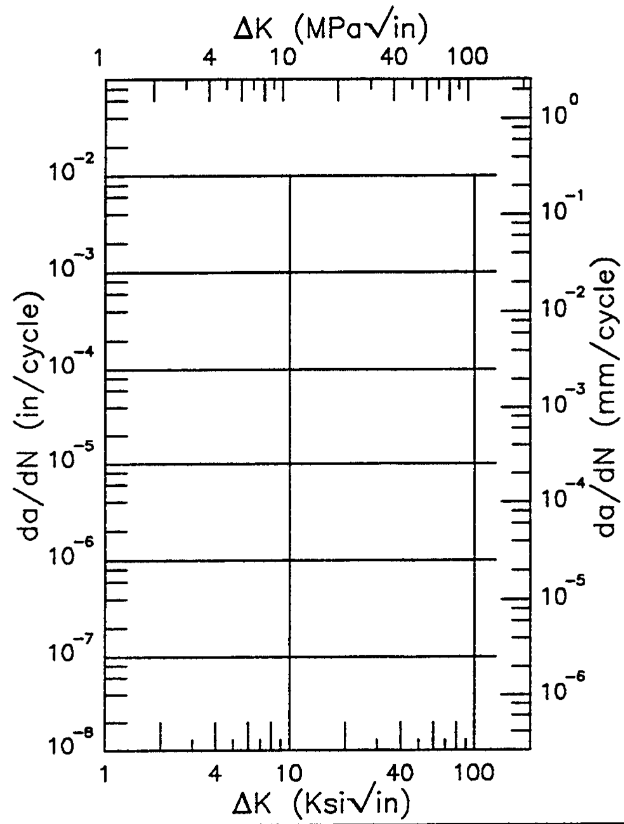
Figure 8.7.3.1.76

Condition/Ht: T7452
Form: 4 in. Forging
Specimen Type: CT
Orientation: L–T
Frequency: 5 – 30 Hz
Environment: LAB AIR; RT

Yield Strength: 70.3 – 73.4 ksi
Ult. Strength: 80.4 ksi
Specimen Thk: 0.25 in.
Specimen Width: 1.999 – 2.008 in.
Ref: DA004;DA005

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.15 (min)	0.00409
1.3	0.0112
1.6	0.0378
2.	0.0919
2.5	0.185
3.	0.342
3.5	0.623
4.	1.07
5.	2.56
6.	6.52
6.22 (max)	8.46

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
21.03	+ ◻△○ 0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.7.3.1.77

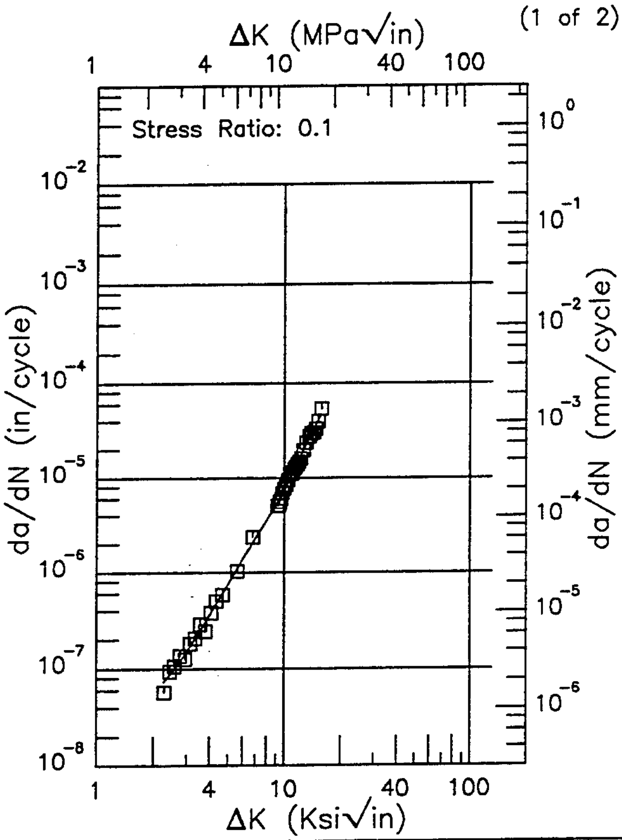
7050

R

Condition/Ht: T7452
Form: 4 in. Forging
Specimen Type: CT
Orientation: T–L
Frequency: 5 – 15 Hz
Environment: LAB AIR; RT

Yield Strength: 71.7 ksi
Ult. Strength: 79 ksi
Specimen Thk: 0.513 – 0.514 in.
Specimen Width: 1.997 – 1.998 in.
Ref: DA004

(1 of 2)



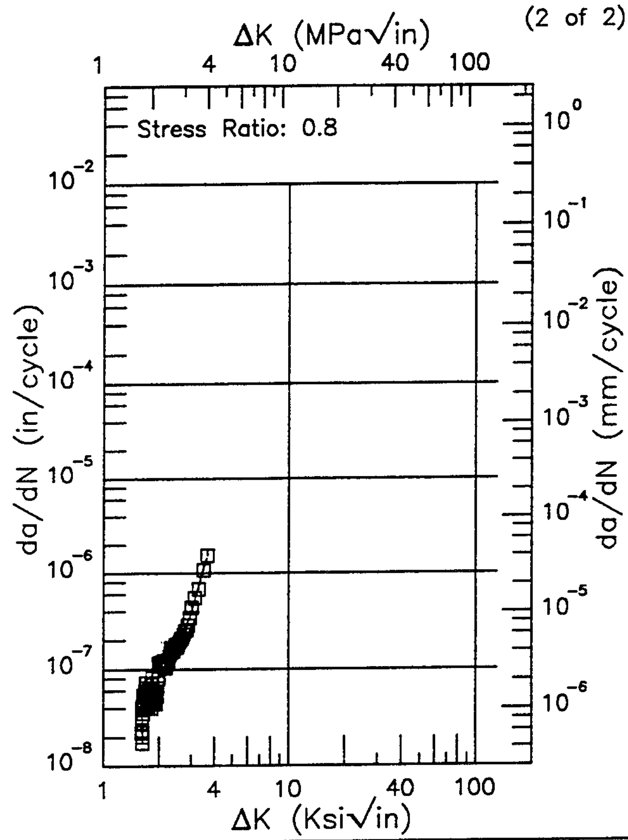
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.27 (min)	0.0739
2.5	0.0919
3.	0.148
3.5	0.234
4.	0.358
5.	0.752
6.	1.39
7.	2.30
8.	3.51
9.	5.18
10.	7.50
13.	22.1
15.62 (max)	47.1

RMS % Error: 8.78

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.61 (min)	0.0393
2.	0.0828
2.5	0.180
3.	0.383
3.5	1.14
3.65 (max)	1.45

RMS % Error: 20.86

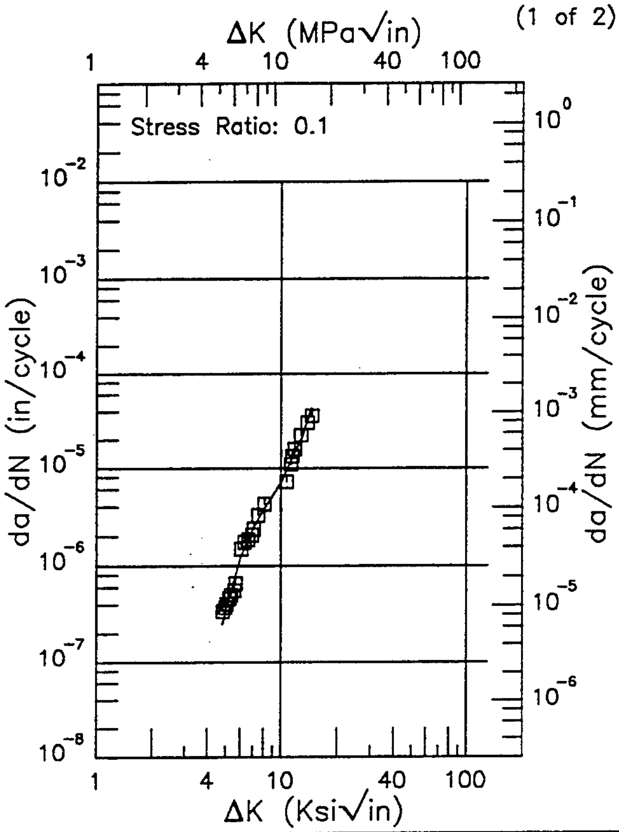
Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.7.3.1.78

Condition/Ht: T7452	Yield Strength: 71.7 ksi
Form: 4 in. Forging	Ult. Strength: 79 ksi
Specimen Type: CT	Specimen Thk: 0.248 – 0.25 in.
Orientation: T–L	Specimen Width: 2.004 in.
Frequency: 1 Hz	Ref: DA004
Environment: DIST WATER; RT	

(1 of 2)

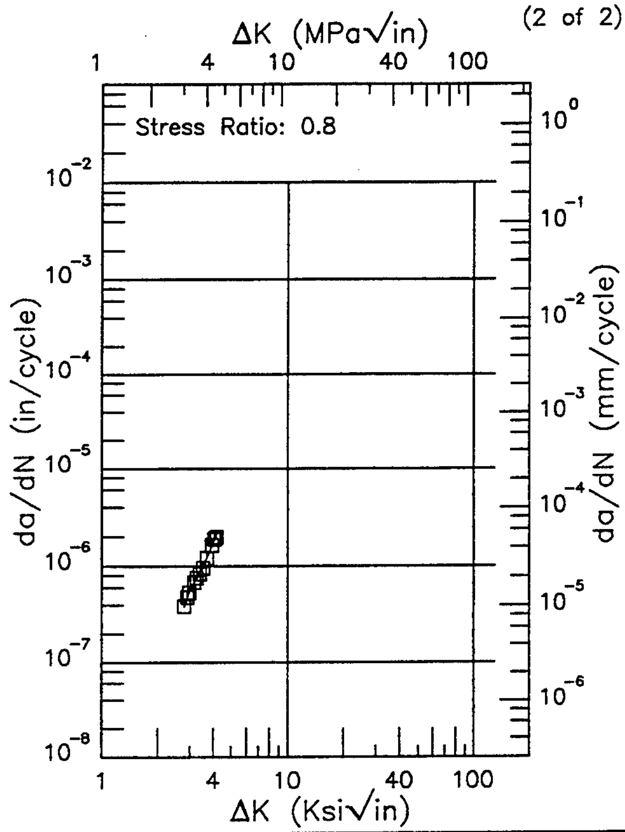


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.83 (min)	0.251
5.	0.341
6.	1.18
7.	2.37
8.	3.70
9.	5.19
10.	7.08
13.	20.9
14.56 (max)	43.0

RMS % Error: 14.34

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.78 (min)	0.381
3.	0.570
3.5	0.941
4.	1.77
4.15 (max)	1.96

RMS % Error: 1.48

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

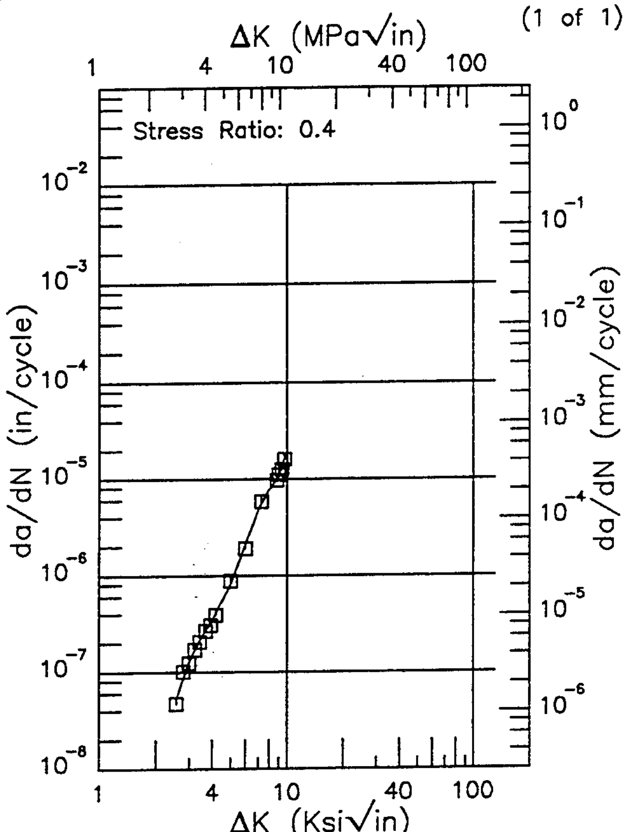
Figure 8.7.3.1.79

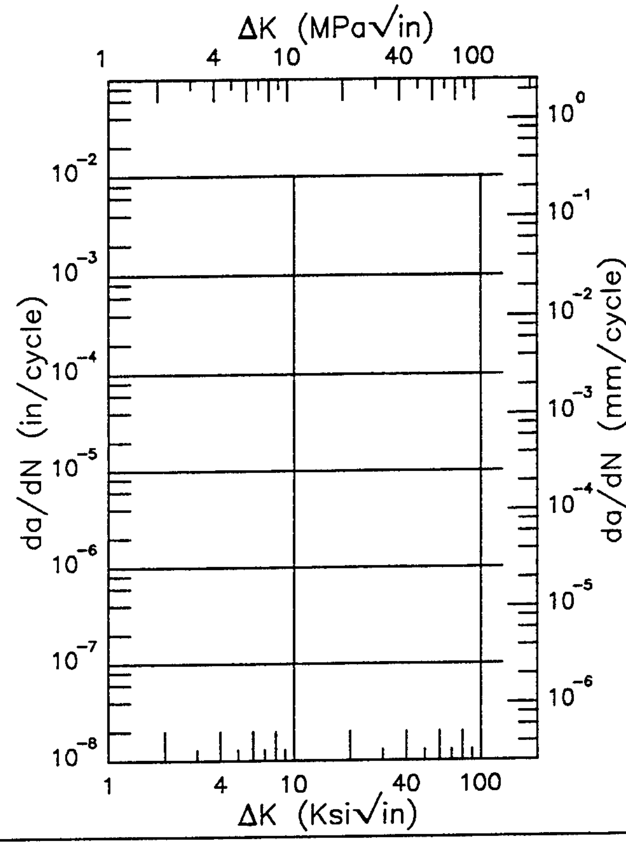
R 7050

Condition/Ht: T7452
Form: 4 in. Forging
Specimen Type: CT
Orientation: T–L
Frequency: 5 – 20 Hz
Environment: LAB AIR; RT

Yield Strength: 71.7 ksi
Ult. Strength: 79 ksi
Specimen Thk: 0.514 in.
Specimen Width: 2 in.
Ref: DA004

(1 of 1)



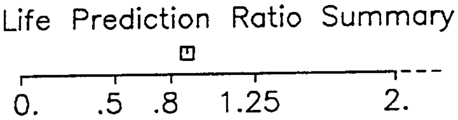


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.56 (min)	0.0523
3.	0.129
3.5	0.228
4.	0.345
5.	0.824
6.	2.09
7.	4.76
8.	7.82
9.	10.6
9.63 (max)	15.9

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
6.89

Life Prediction Ratio Summary



RMS % Error

Life Prediction Ratio Summary

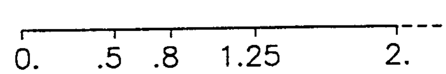
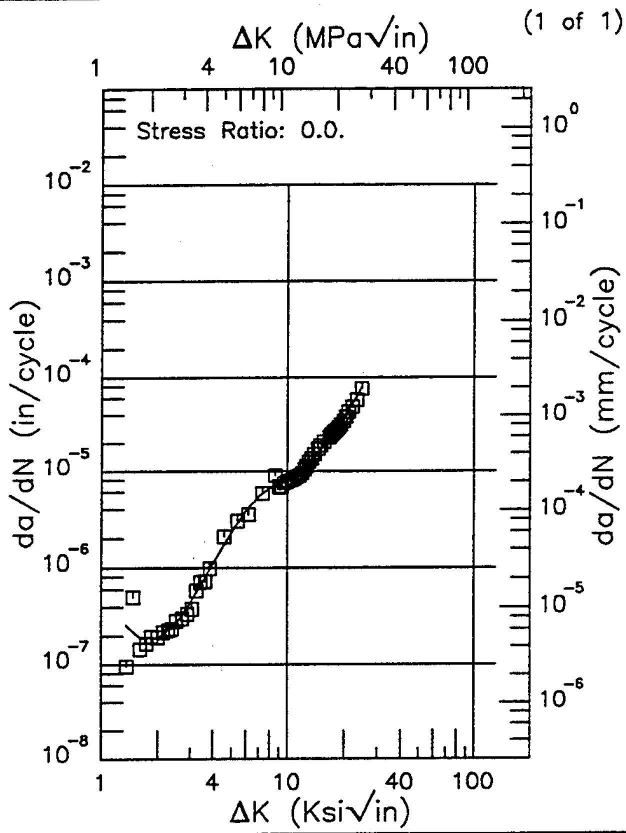


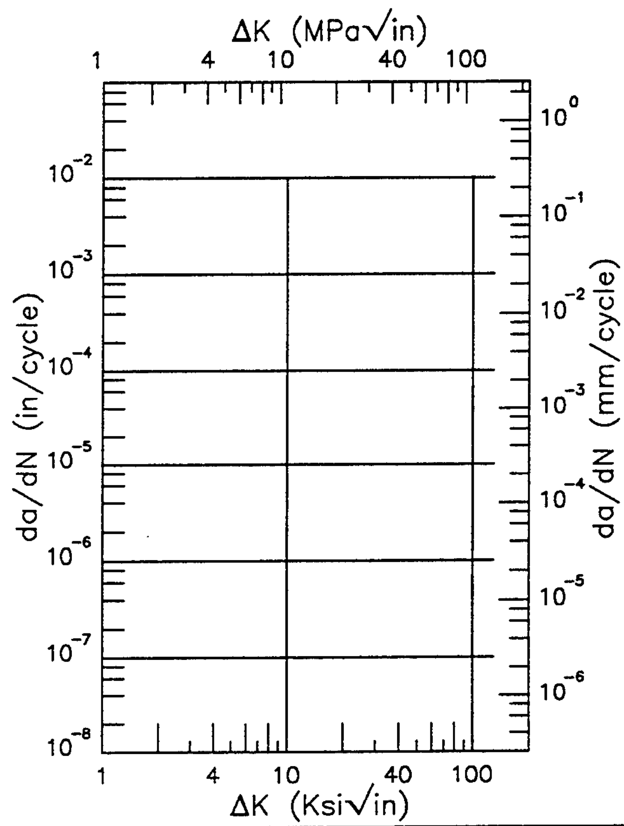
Figure 8.7.3.1.80

Condition/Ht: T7452
Form: 4 in. Forging
Specimen Type: CCP (max load specified)
Orientation: L-T
Frequency: 5 – 20 Hz
Environment: LAB AIR; RT

Yield Strength: 73.4 ksi
Ult. Strength: 80.4 ksi
Specimen Thk: 0.198 in.
Specimen Width: 12 in.
Ref: DA004

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
1.35 (min)	0.259
1.6	0.190
2.	0.189
2.5	0.270
3.	0.434
3.5	0.703
4.	1.10
5.	2.29
6.	3.87
7.	5.43
8.	6.59
9.	7.41
10.	8.15
13.	11.9
16.	20.9
20.	36.9
24.71 (max)	77.4

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error	Life Prediction Ratio Summary
20.53	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.7.3.1.81

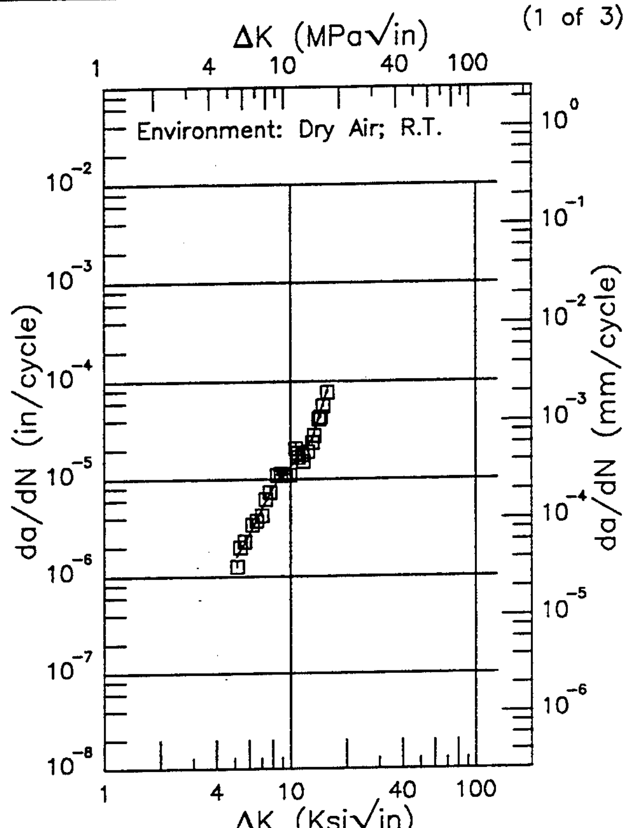
E

7050

Condition/Ht: T76
Form: 0.13 in. Sheet
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.33
Frequency: 13.3 Hz

Yield Strength: 79.6 ksi
Ult. Strength: 83.6 ksi
Specimen Thk: 0.125 in.
Specimen Width: 4 in.
Ref: AL015

(1 of 3)



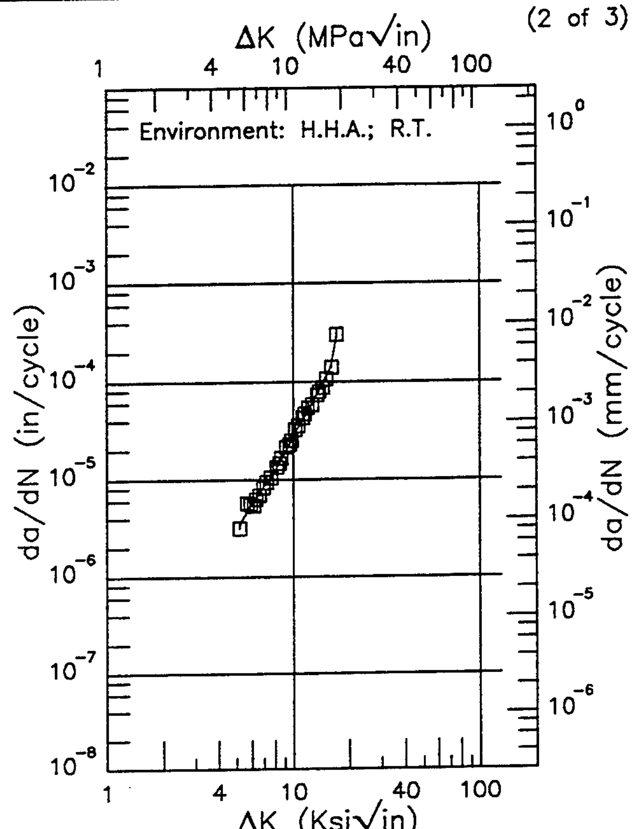
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.13 (min)	1.58
6.	2.73
7.	5.05
8.	8.16
9.	11.1
10.	13.4
13.	25.5
15.70 (max)	80.9

RMS % Error 12.32

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.17 (min)	3.45
6.	5.76
7.	8.54
8.	12.3
9.	18.8
10.	28.6
13.	65.7
16.	139.
17.18 (max)	292.

RMS % Error 6.73

Life Prediction Ratio Summary

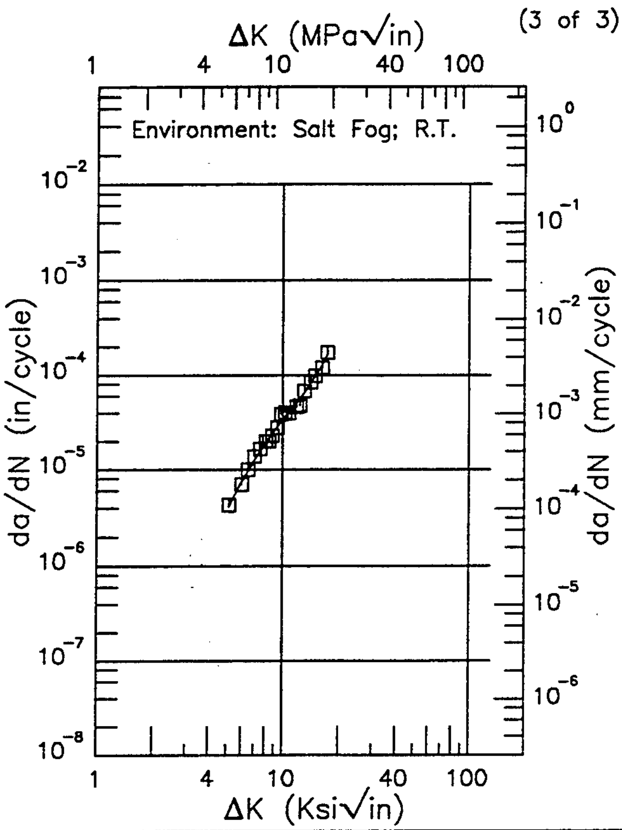
0. .5 .8 1.25 2.

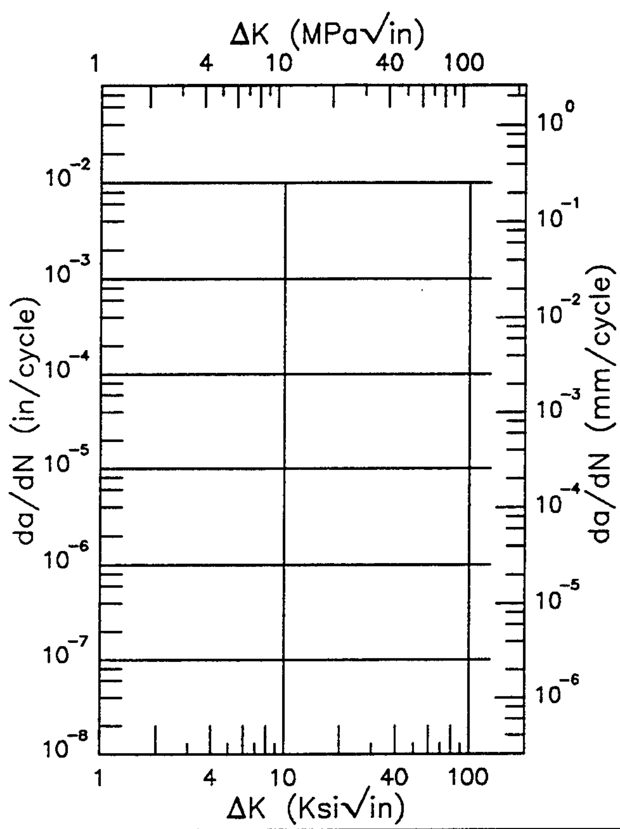
Figure 8.7.3.1.82

Condition/Ht: T76
Form: 0.13 in. Sheet
Specimen Type: CT
Orientation: L-T
Stress Ratio: 0.33
Frequency: 13.3 Hz

Yield Strength: 79.6 ksi
Ult. Strength: 83.6 ksi
Specimen Thk: 0.125 in.
Specimen Width: 4 in.
Ref: AL015

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.14 (min)	4.08
6.	7.36
7.	12.4
8.	18.7
9.	26.0
10.	34.2
13.	63.9
16.	121.
17.27 (max)	169.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
7.72	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.7.3.1.82 (Concluded)

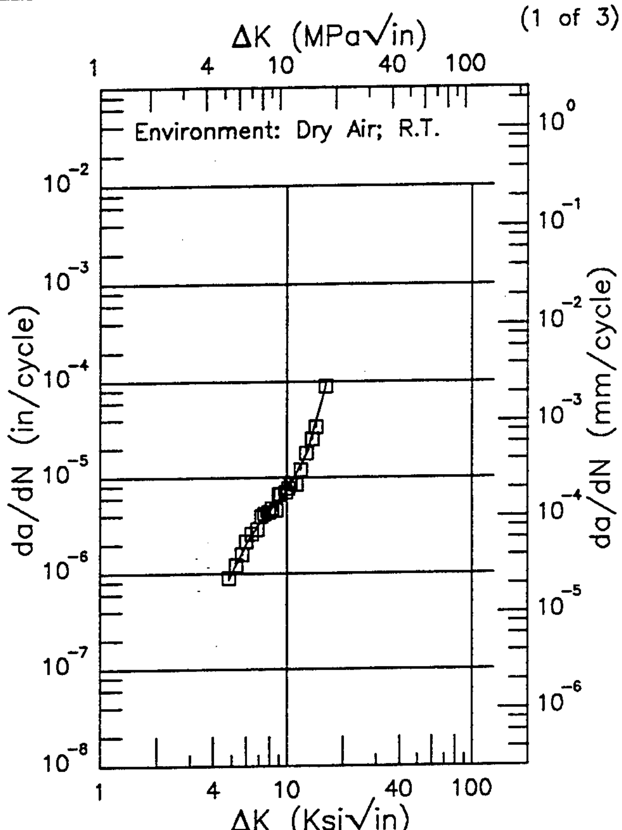
7050

E

Condition/Ht: T76
Form: 0.04 in. Sheet
Specimen Type: CT
Orientation: T–L
Stress Ratio: 0.33
Frequency: 13.3 Hz

Yield Strength: 73.1 ksi
Ult. Strength: 81 ksi
Specimen Thk: 0.04 in.
Specimen Width: 4 in.
Ref: AL015

(1 of 3)



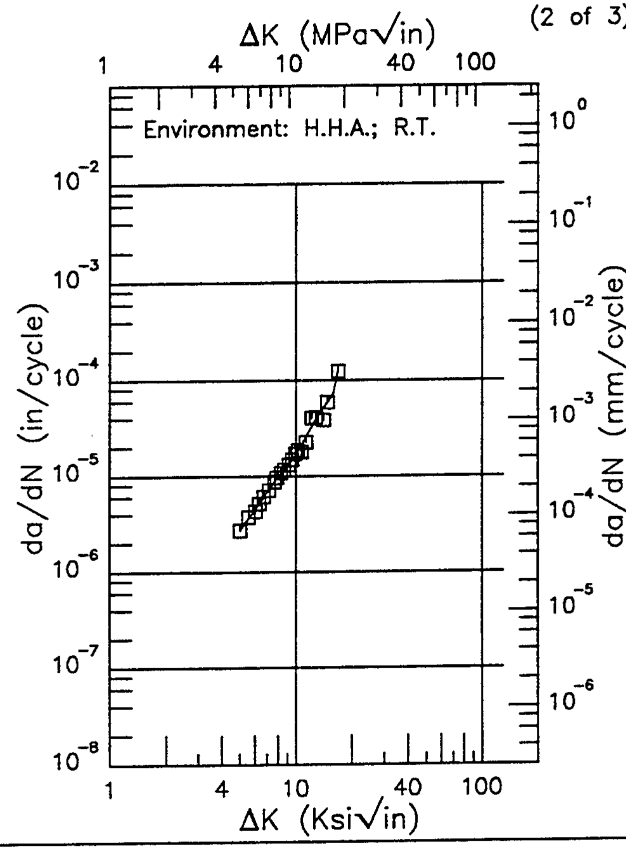
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.84 (min)	0.862
5.	0.997
6.	2.03
7.	3.25
8.	4.54
9.	5.81
10.	7.22
13.	18.9
16.	86.3
16.03 (max)	87.8

RMS % Error 8.73

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.01 (min)	2.76
6.	4.40
7.	6.81
8.	9.68
9.	12.7
10.	16.6
13.	41.0
16.	72.4
16.84 (max)	123.

RMS % Error 8.98

Life Prediction Ratio Summary

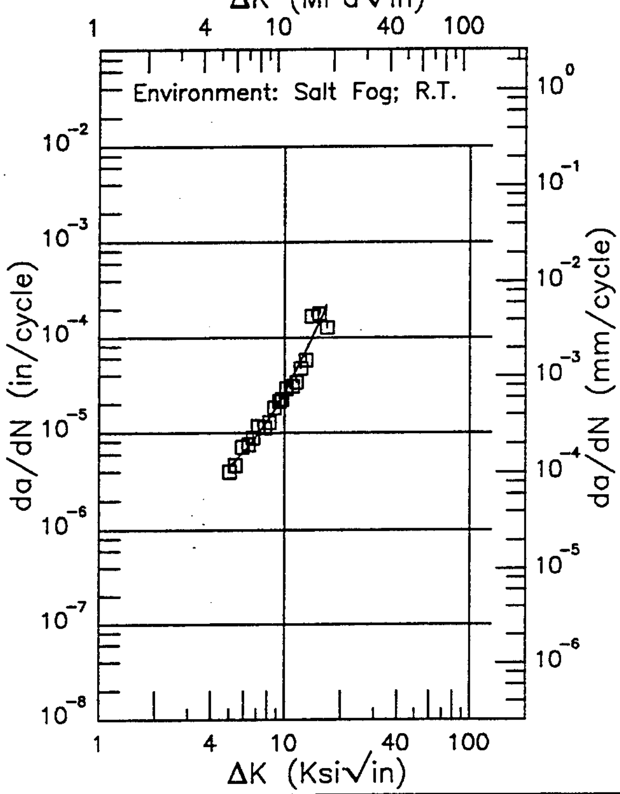
0. .5 .8 1.25 2.

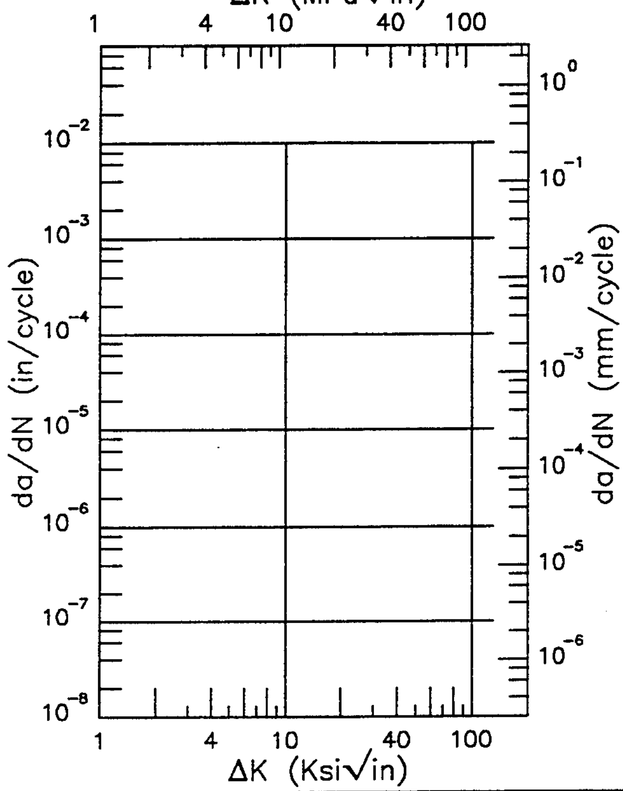
Figure 8.7.3.1.83

Condition/Ht: T76
Form: 0.04 in. Sheet
Specimen Type: CT
Orientation: T–L
Stress Ratio: 0.33
Frequency: 13.3 Hz

Yield Strength: 73.1 ksi
Ult. Strength: 81 ksi
Specimen Thk: 0.04 in.
Specimen Width: 4 in.
Ref: AL015

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.03 (min)	4.51
6.	6.41
7.	9.19
8.	13.1
9.	18.6
10.	26.2
13.	69.7
16.	174.
16.81 (max)	220.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
24.73	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

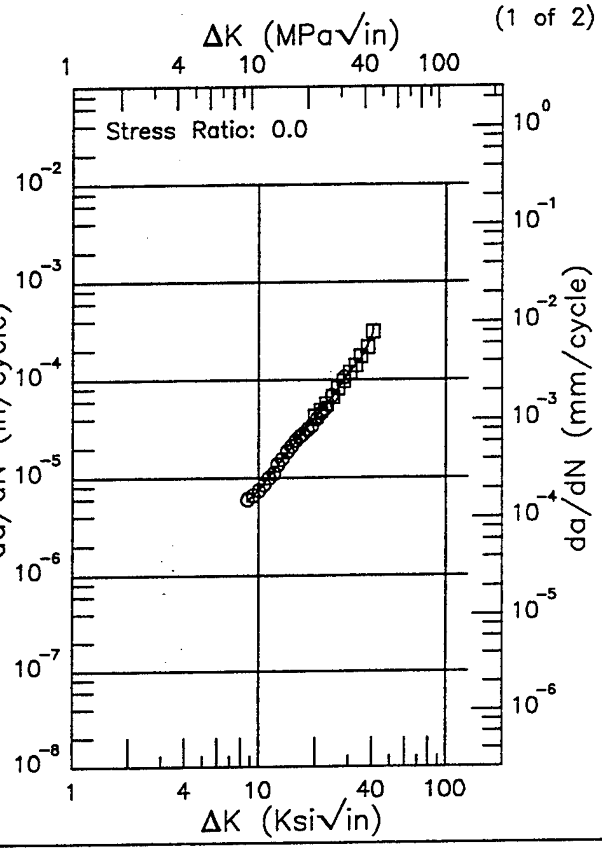
Figure 8.7.3.1.83 (Concluded)

R 7050

Condition/Ht: T76
Form: 0.09 in. Sheet
Specimen Type: CCP (max load specified)
Orientation: L-T
Frequency: 13.3 Hz
Environment: LAB AIR; RT

Yield Strength: 79 ksi
Ult. Strength: 85.8 ksi
Specimen Thk: 0.09 – 0.091 in.
Specimen Width: 4 – 4.004 in.
Ref: 86213

(1 of 2)



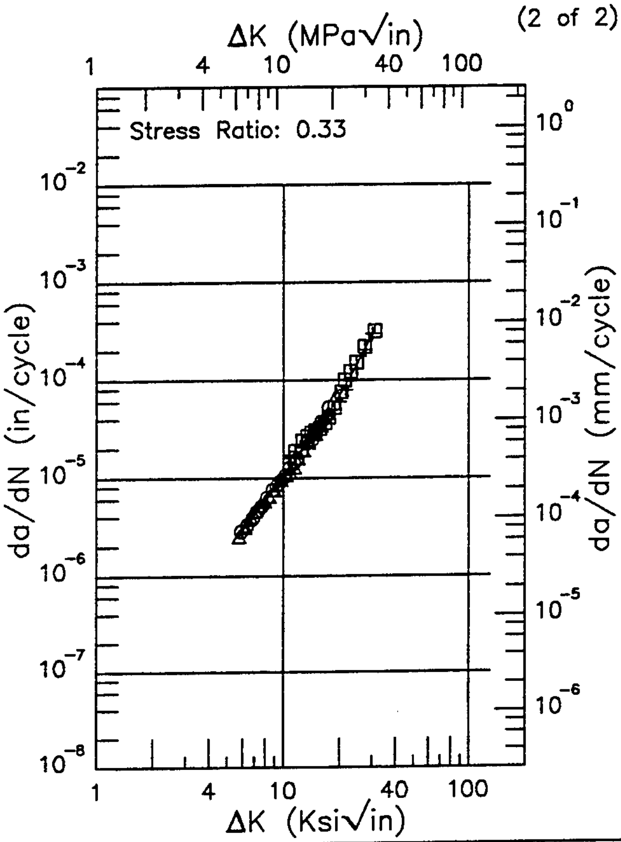
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
8.71 (min)	5.75
9.	6.07
10.	7.46
13.	14.2
16.	24.3
20.	40.3
25.	68.7
30.	115.
35.	166.
40.	280.
40.58 (max)	307.

RMS % Error 4.04

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.75 (min)	2.67
6.	2.94
7.	4.22
8.	5.86
9.	7.90
10.	10.4
13.	20.8
16.	36.3
20.	69.0
25.	148.
30.	292.
30.93 (max)	328.

RMS % Error 9.23

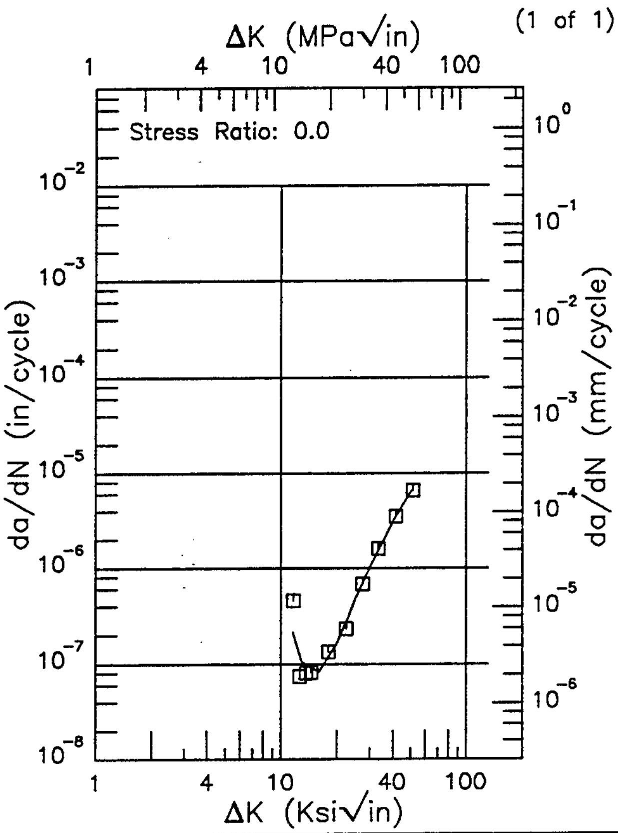
Life Prediction Ratio Summary

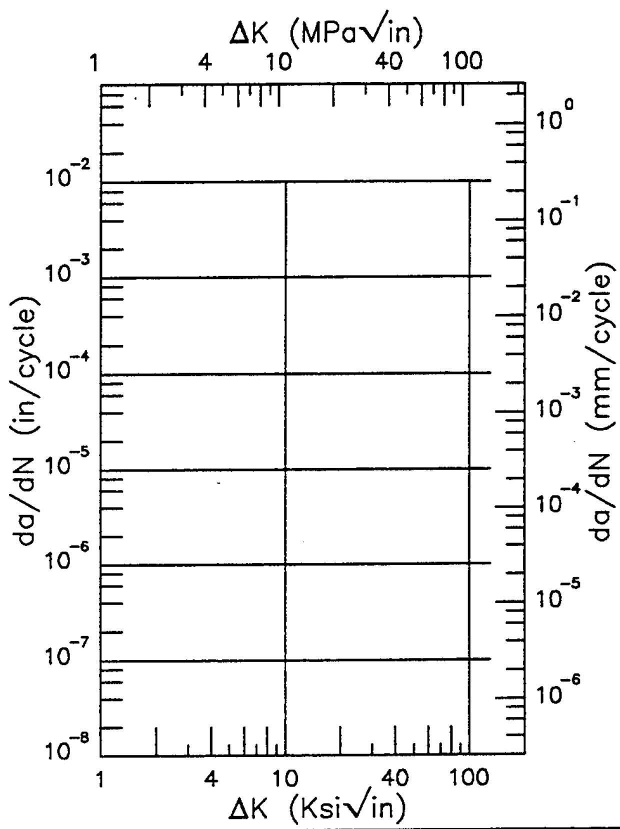
0. .5 .8 1.25 2.

Figure 8.7.3.1.84

Condition/Ht: T7651
Form: 0.75 in. Plate
Specimen Type: CT
Orientation: L–T
Frequency: 2 – 10 Hz
Environment: LAB AIR; RT

Yield Strength: 69.4 ksi
Ult. Strength: 79.3 ksi
Specimen Thk: 0.207 in.
Specimen Width: 11.998 in.
Ref: DA004





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
11.60 (min)	0.212
13.	0.107
16.	0.0831
20.	0.164
25.	0.467
30.	1.01
35.	1.84
40.	3.10
50.	6.30
51.26 (max)	6.57

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error	Life Prediction Ratio Summary
39.26	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

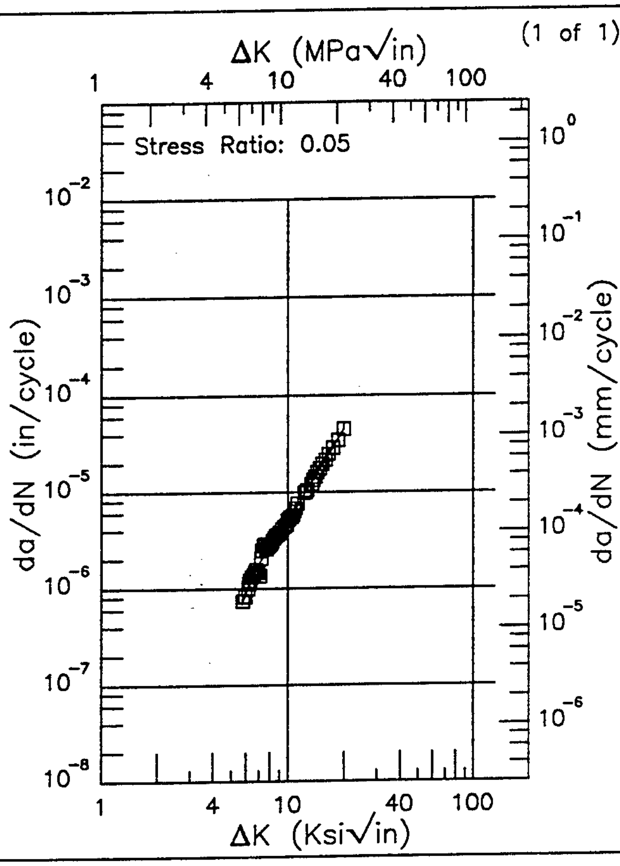
Figure 8.7.3.1.85

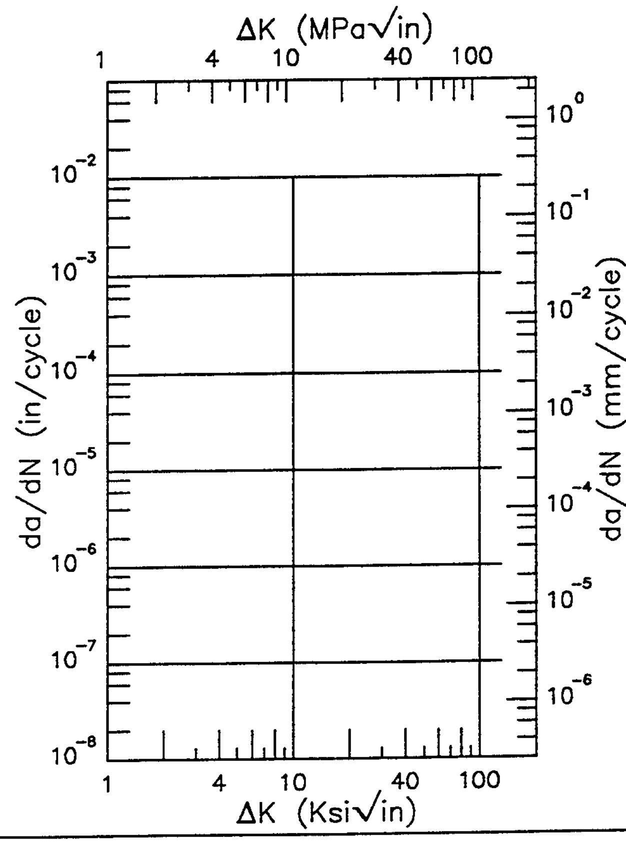
R 7050

Condition/Ht: T7651
Form: 0.75 in. Plate
Specimen Type: CT
Orientation: L–T
Frequency: 2 Hz
Environment: LAB AIR; RT

Yield Strength: 69.4 ksi
Ult. Strength: 79.3 ksi
Specimen Thk: 0.5 in.
Specimen Width: 1.999 in.
Ref: DA004

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
5.74 (min)	0.692
6.	0.893
7.	1.80
8.	2.79
9.	3.86
10.	5.11
13.	11.6
16.	22.7
19.92 (max)	44.9

ΔK (Ksi√in) da/dN (10^{-6} in/cycle)

RMS % Error	Life Prediction Ratio Summary
7.87	0. .5 .8 1.25 2.

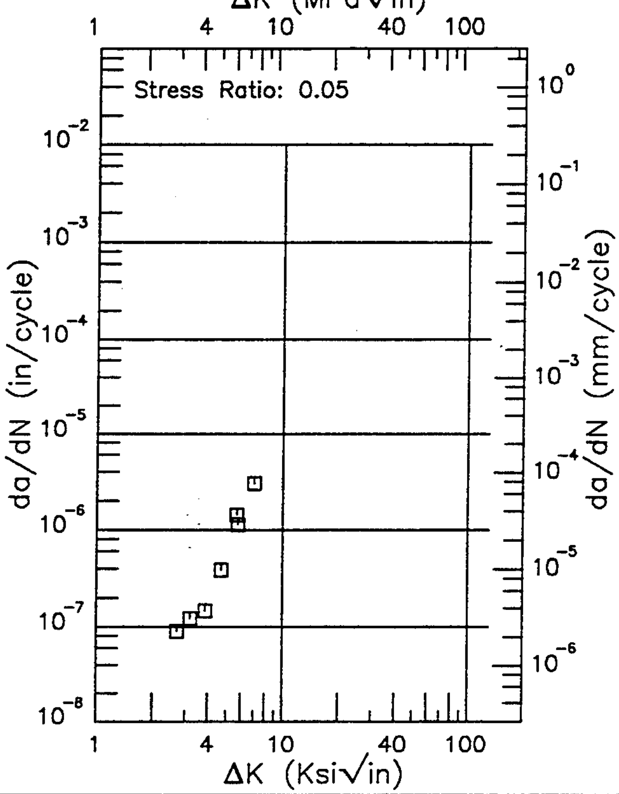
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.7.3.1.86

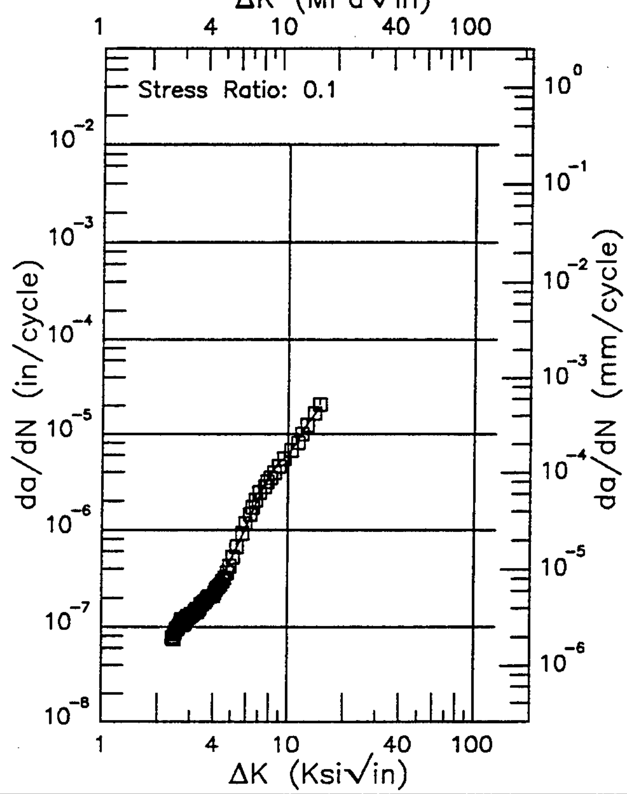
Condition/Ht: T7651
Form: 0.75 in. Plate
Specimen Type: CT
Orientation: L-T
Frequency: 5 Hz
Environment: LAB AIR; RT

Yield Strength: 69.4 ksi
Ult. Strength: 79.3 ksi
Specimen Thk: 0.247 in.
Specimen Width: 1.999 in.
Ref: DA004

(1 of 2)



(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.39 (min)	0.0885
2.5	0.0931
3.	0.122
3.5	0.166
4.	0.234
5.	0.493
6.	1.07
7.	2.16
8.	3.63
9.	4.99
10.	6.04
13.	13.6
14.82 (max)	19.3

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
7.74	0. .5 .8 1.25 2.

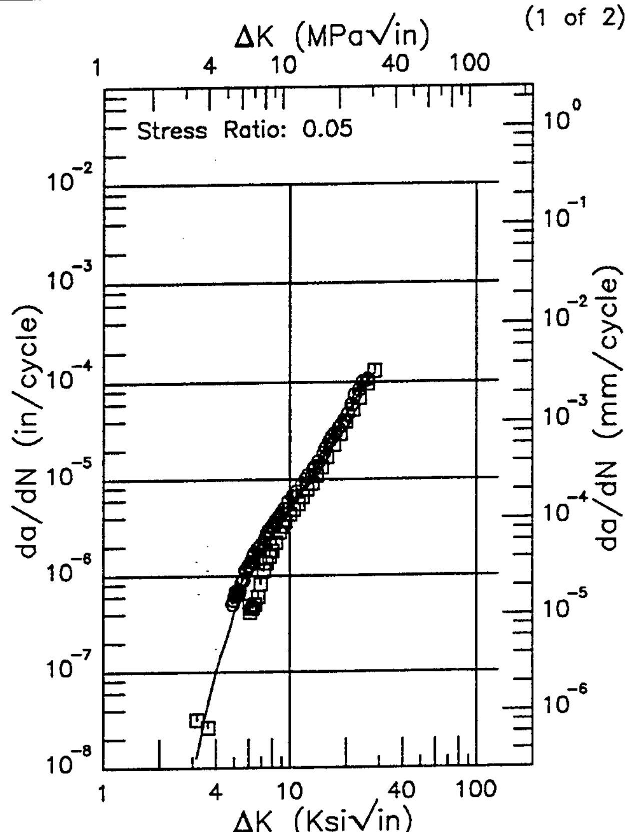
Figure 8.7.3.1.87

R 7050

Condition/Ht: T7651
Form: 0.75 – 1 in. Plate
Specimen Type: CT
Orientation: L–T
Frequency: 1 Hz
Environment: DIST WATER; RT

Yield Strength: 69.4 – 71.2 ksi
Ult. Strength: 79.3 ksi
Specimen Thk: 0.245 – 0.248 in.
Specimen Width: 1.998 – 2.005 in.
Ref: DA005;DA004

(1 of 2)



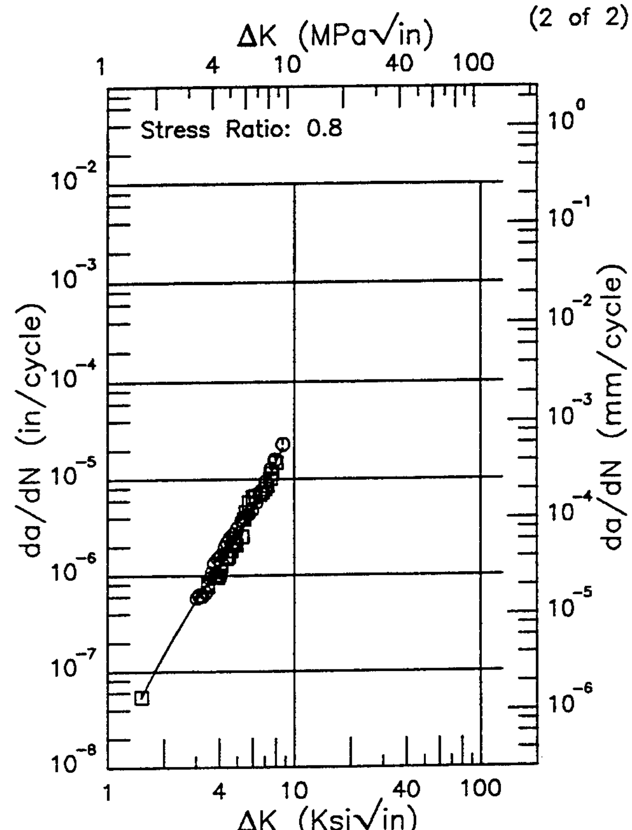
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.16 (min)	0.0127
3.5	0.0338
4.	0.100
5.	0.420
6.	1.01
7.	1.83
8.	2.82
9.	3.94
10.	5.23
13.	10.5
16.	20.2
20.	46.3
25.	96.1
28.31 (max)	125.

RMS % Error 31.17

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.51 (min)	0.0535
1.6	0.0663
2.	0.148
2.5	0.308
3.	0.546
3.5	0.878
4.	1.33
5.	2.71
6.	5.06
7.	8.91
8.	15.1
8.69 (max)	21.2

RMS % Error 14.28

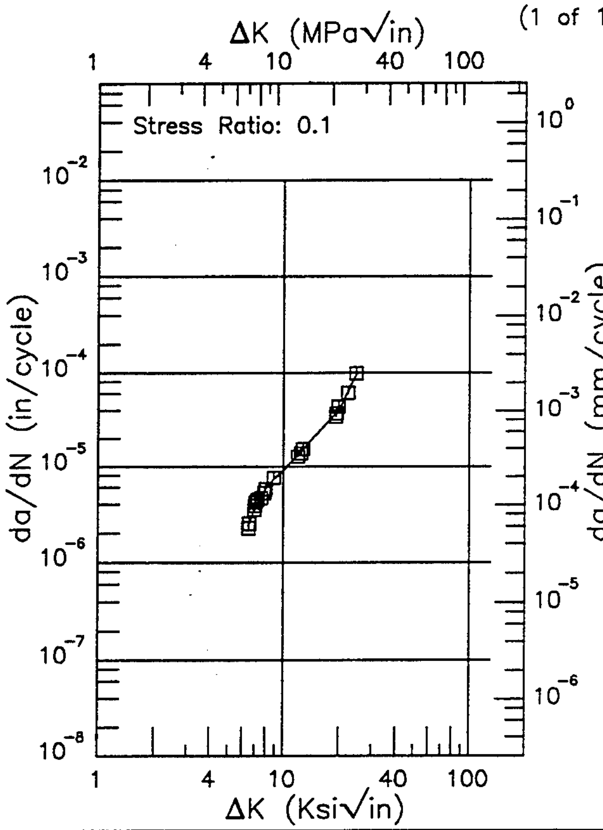
Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.7.3.1.88

Condition/Ht: T7651
Form: 1.13 in. Plate
Specimen Type: CT
Orientation: L–T
Frequency: 20 Hz
Environment: DRY AIR; RT

Yield Strength:
Ult. Strength:
Specimen Thk:
Specimen Width:
Ref: 91332

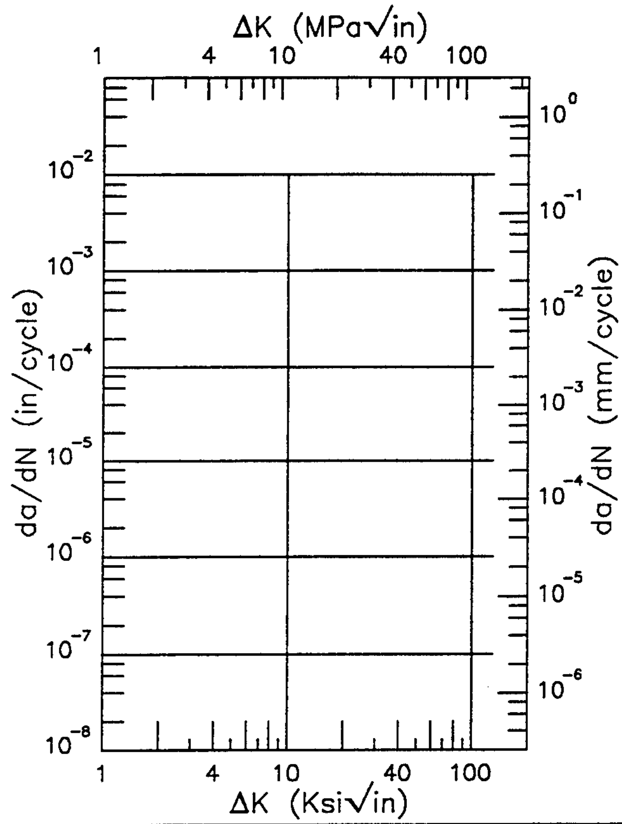


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.45 (min)	2.41
7.	3.65
8.	5.83
9.	7.61
10.	9.17
13.	15.9
16.	25.0
20.	40.7
24.59 (max)	96.4

RMS % Error 5.83

Life Prediction Ratio Summary

0. .5 .8 1.25 2.



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

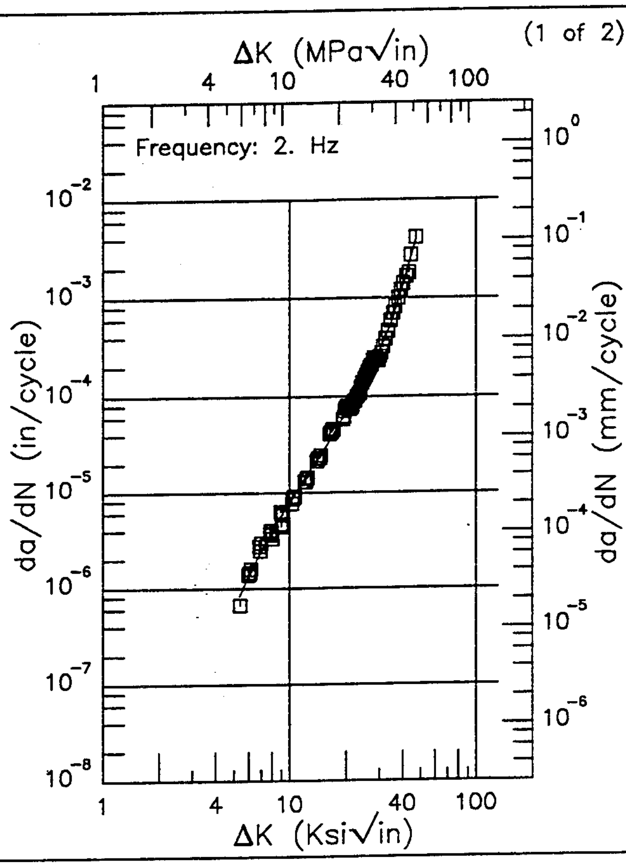
Figure 8.7.3.1.89

F — 7050

Condition/Ht: T7651
Form: 0.52 in. Plate
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.1
Environment: H.H.A.; RT

Yield Strength:
Ult. Strength:
Specimen Thk: 0.148 in.
Specimen Width: 3 in.
Ref: 86844

(1 of 2)

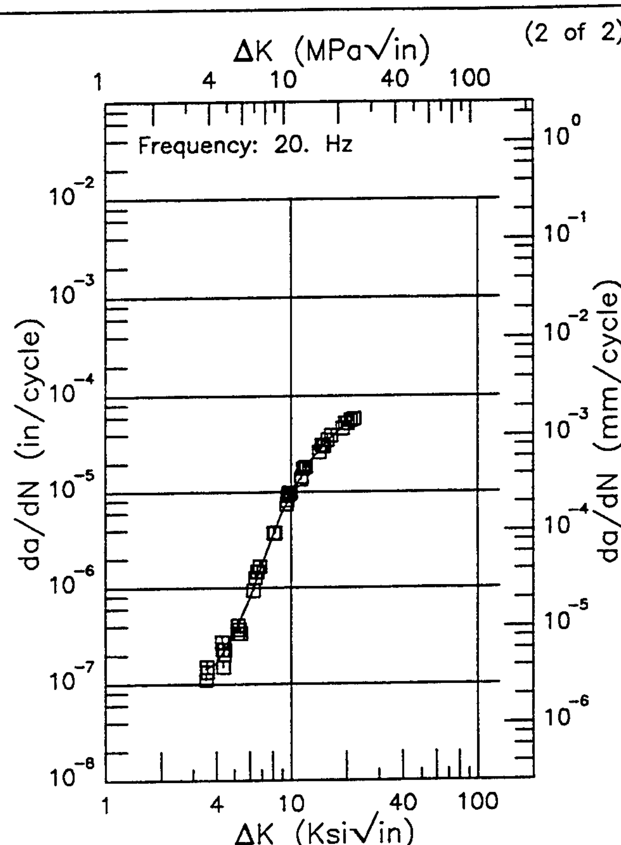


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.39 (min)	0.832
6.	1.34
7.	2.46
8.	3.94
9.	5.77
10.	7.97
13.	17.3
16.	32.6
20.	68.9
25.	152.
30.	295.
35.	589.
40.	1321.
47.21 (max)	3939.

RMS % Error: 9.34

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.50 (min)	0.145
4.	0.167
5.	0.333
6.	0.775
7.	1.73
8.	3.48
9.	6.16
10.	9.64
13.	22.0
16.	35.2
20.	51.9
21.86 (max)	57.4

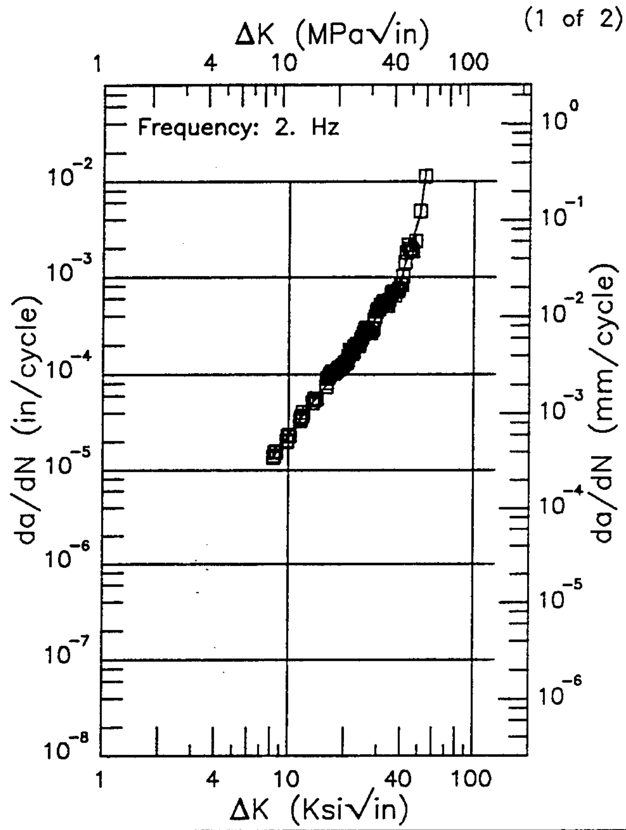
RMS % Error: 11.45

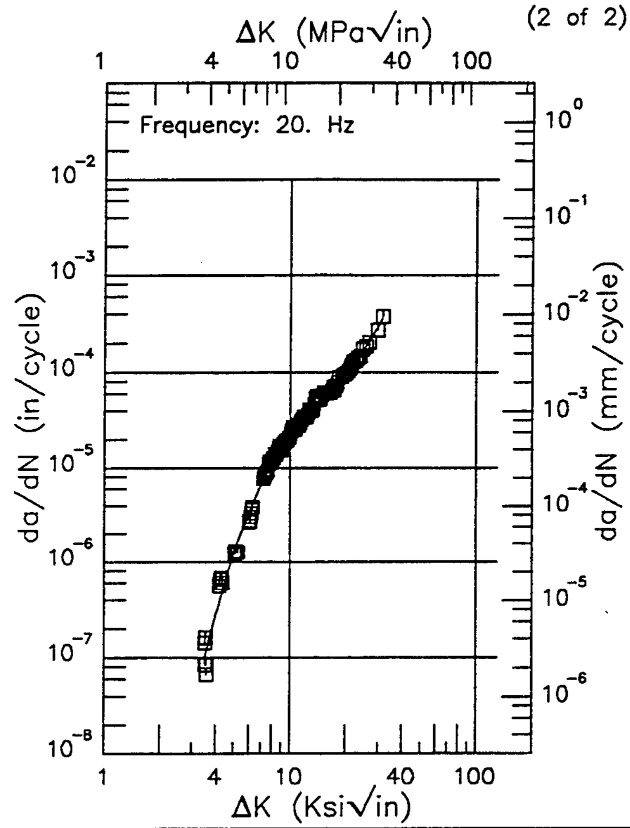
Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

Figure 8.7.3.1.90

Condition/Ht: T7651
Form: 0.52 in. Plate
Specimen Type: CT
Orientation: L-T
Stress Ratio: 0.1
Environment: 3.5% NACL; RT

Yield Strength:
Ult. Strength:
Specimen Thk: 0.147 – 0.148 in.
Specimen Width: 3 in.
Ref: 86844





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
8.21 (min)	13.5
9.	17.4
10.	23.2
13.	46.5
16.	79.6
20.	141.
25.	249.
30.	404.
35.	627.
40.	1005.
50.	4178.
53.64 (max)	10877.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.50 (min)	0.0982
4.	0.280
5.	1.23
6.	3.29
7.	6.59
8.	11.0
9.	16.3
10.	22.3
13.	42.0
16.	63.6
20.	99.0
25.	169.
30.	300.
31.41 (max)	356.

RMS % Error	Life Prediction Ratio Summary
9.44	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
15.39	0. .5 .8 1.25 2.

Figure 8.7.3.1.91

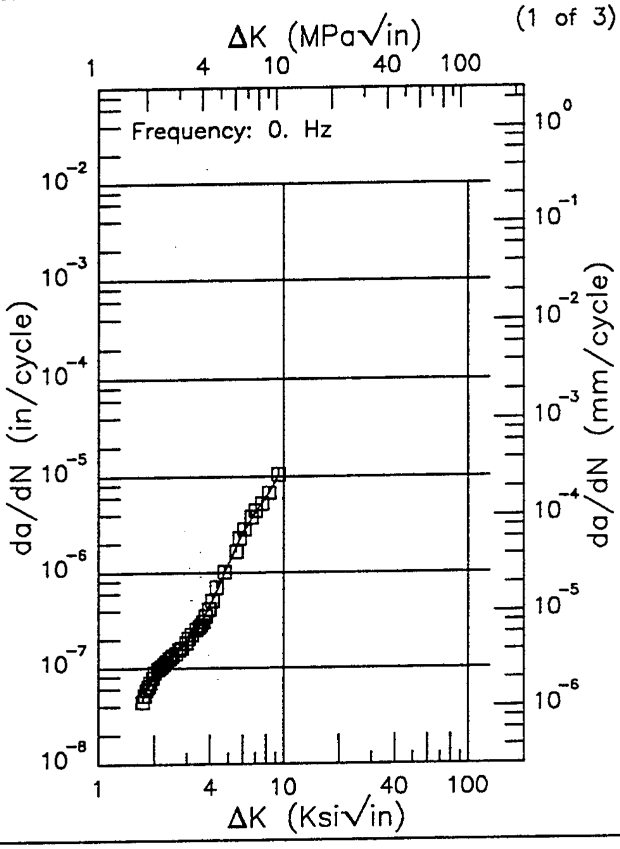
F

7050

Condition/Ht: T7651
Form: 0.75 – 1 in. Plate
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.4
Environment: LAB AIR; RT

Yield Strength: 15 – 69.4 ksi
Ult. Strength: 79.3 ksi
Specimen Thk: 0.246 – 0.25 in.
Specimen Width: 2.001 – 2.009 in.
Ref: DA004;DA005

(1 of 3)



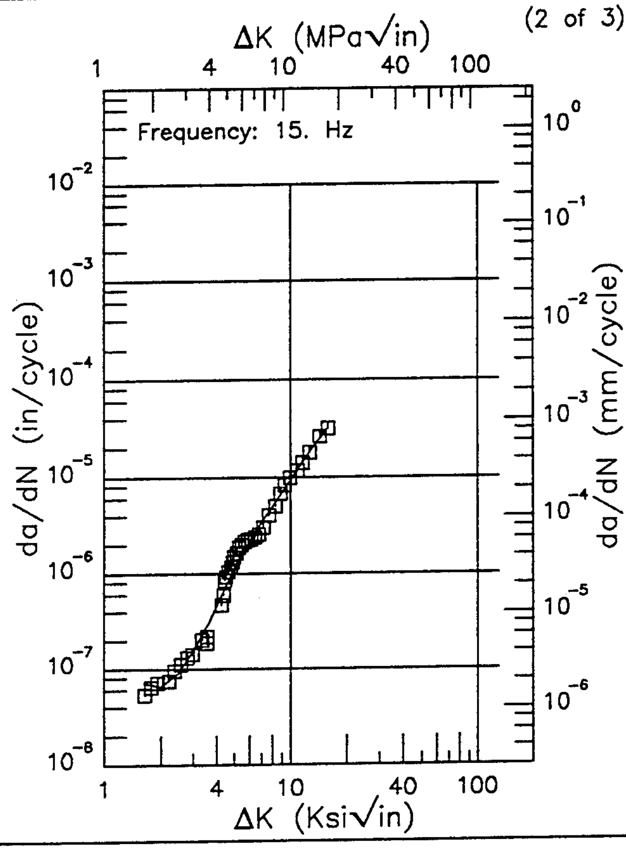
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.72 (min)	0.0473
2.	0.0816
2.5	0.134
3.	0.189
3.5	0.278
4.	0.451
5.	1.22
6.	2.57
7.	4.23
8.	6.12
9.	8.94
9.33 (max)	10.4

RMS % Error 4.05

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.64 (min)	0.0711
2.	0.0645
2.5	0.0909
3.	0.155
3.5	0.273
4.	0.464
5.	1.12
6.	2.11
7.	3.38
8.	4.97
9.	6.92
10.	9.32
13.	19.6
15.78 (max)	31.8

RMS % Error 18.92

Life Prediction Ratio Summary

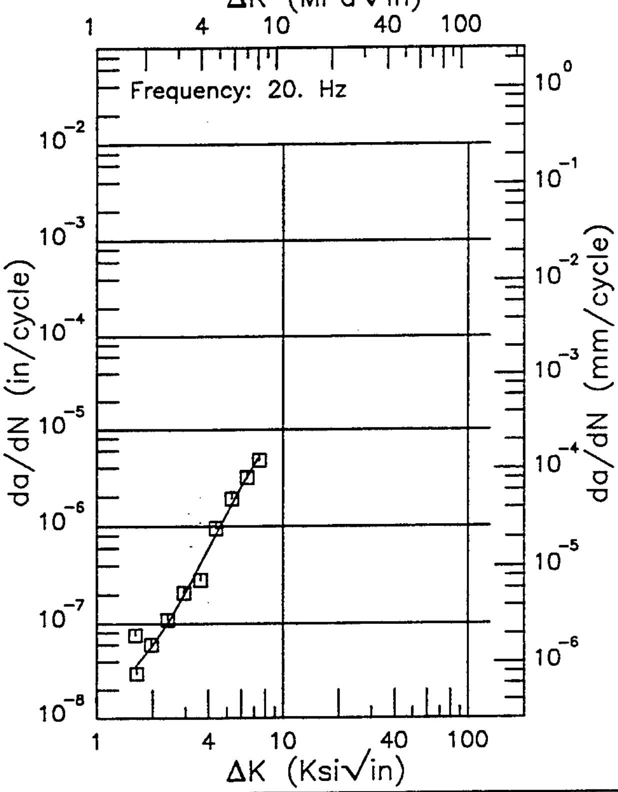
0. .5 .8 1.25 2.

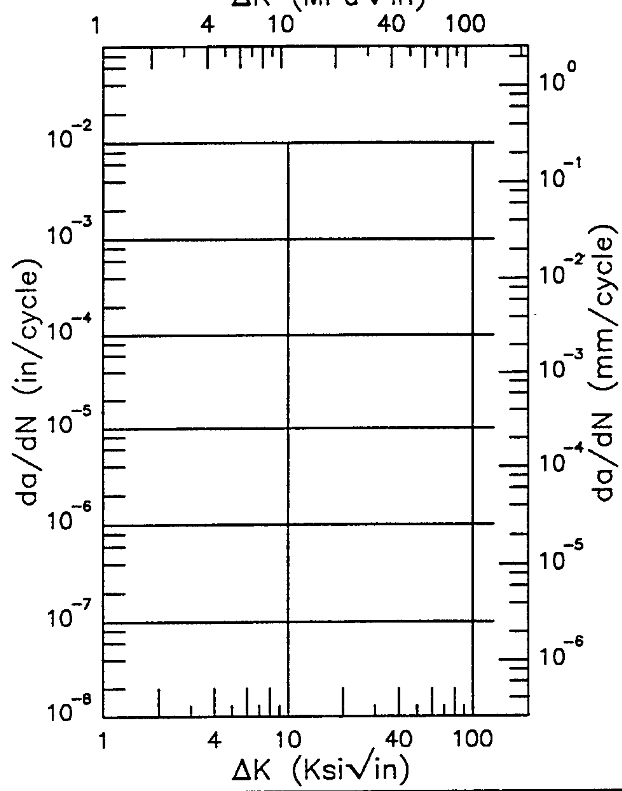
Figure 8.7.3.1.92

Condition/Ht: T7651
Form: 0.75 – 1 in. Plate
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.4
Environment: LAB AIR; RT

Yield Strength: 15 – 69.4 ksi
Ult. Strength: 79.3 ksi
Specimen Thk: 0.246 – 0.25 in.
Specimen Width: 2.001 – 2.009 in.
Ref: DA004;DA005

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
1.60 (min)	0.0348
1.6	0.0349
2.	0.0592
2.5	0.115
3.	0.211
3.5	0.366
4.	0.595
5.	1.35
6.	2.56
7.	4.26
7.46 (max)	5.19

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error	Life Prediction Ratio Summary
39.19	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

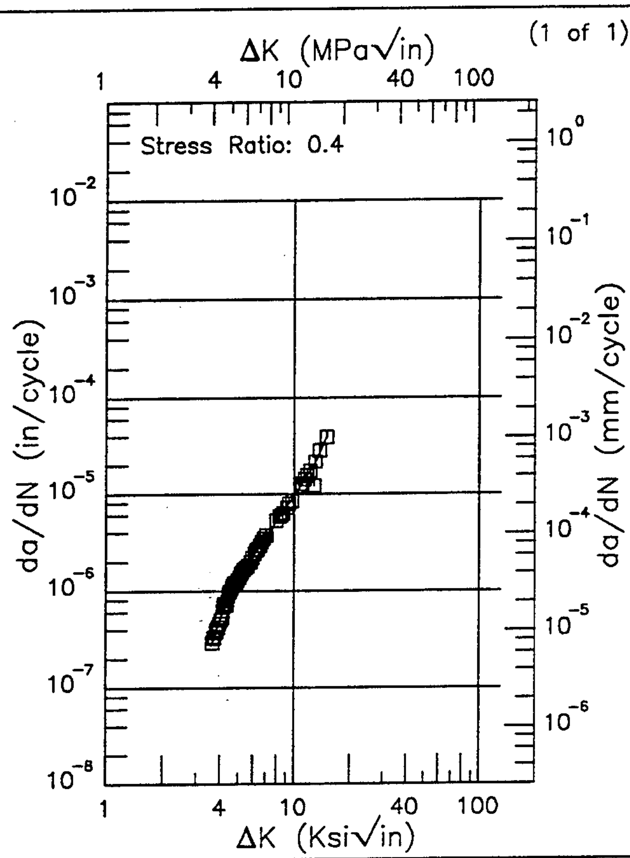
Figure 8.7.3.1.92 (Concluded)

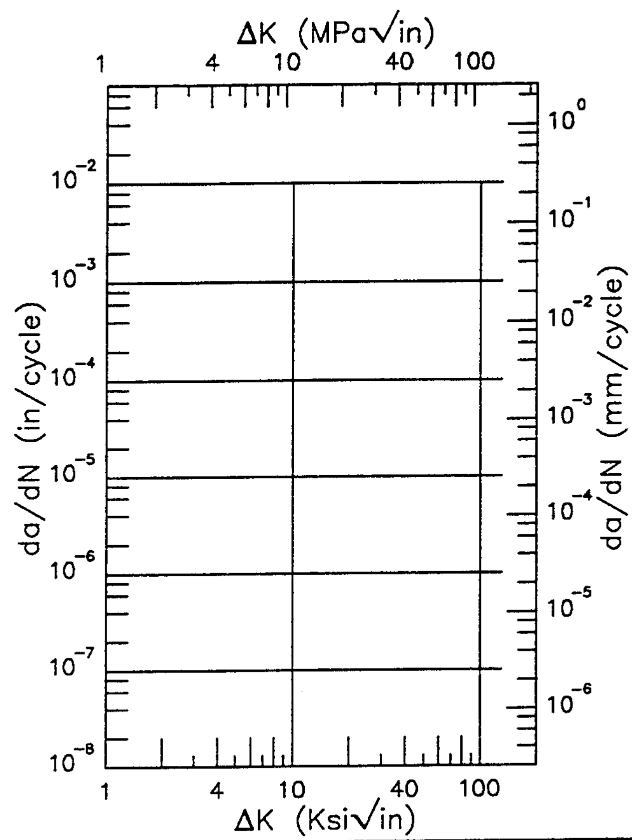
R 7050

Condition/Ht: T7651
Form: 0.75 in. Plate
Specimen Type: CT
Orientation: L−T
Frequency: 5 Hz
Environment: LAB AIR; RT

Yield Strength: 69.4 ksi
Ult. Strength: 79.3 ksi
Specimen Thk: 0.5 in.
Specimen Width: 1.999 in.
Ref: DA004

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.64 (min)	0.277
4.	0.507
5.	1.35
6.	2.31
7.	3.53
8.	5.18
9.	7.20
10.	9.51
13.	20.5
15.01 (max)	39.6

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
7.96	0. .5 .8 1.25 2.

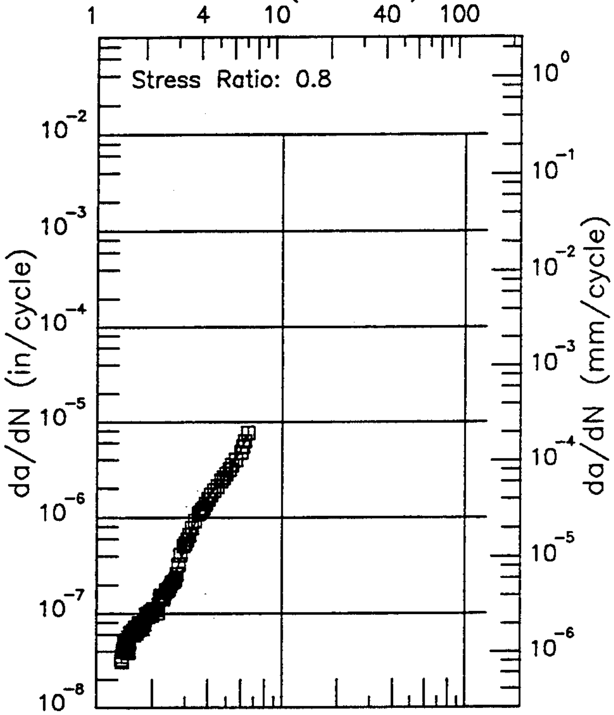
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

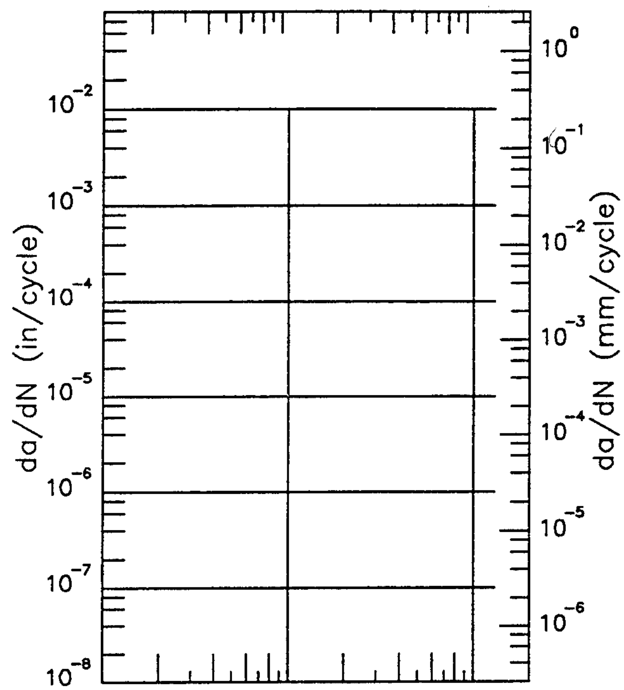
Figure 8.7.3.1.93

Condition/Ht: T7651
Form: 0.75 in. Plate
Specimen Type: CT
Orientation: L-T
Frequency: 10 Hz
Environment: LAB AIR; RT

Yield Strength: 69.4 ksi
Ult. Strength: 79.3 ksi
Specimen Thk: 0.499 in.
Specimen Width: 2 in.
Ref: DA004

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.35 (min)	0.0390
1.6	0.0625
2.	0.106
2.5	0.208
3.	0.472
3.5	0.999
4.	1.65
5.	2.70
6.	5.19
6.51 (max)	7.35

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
9.27	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.7.3.1.94

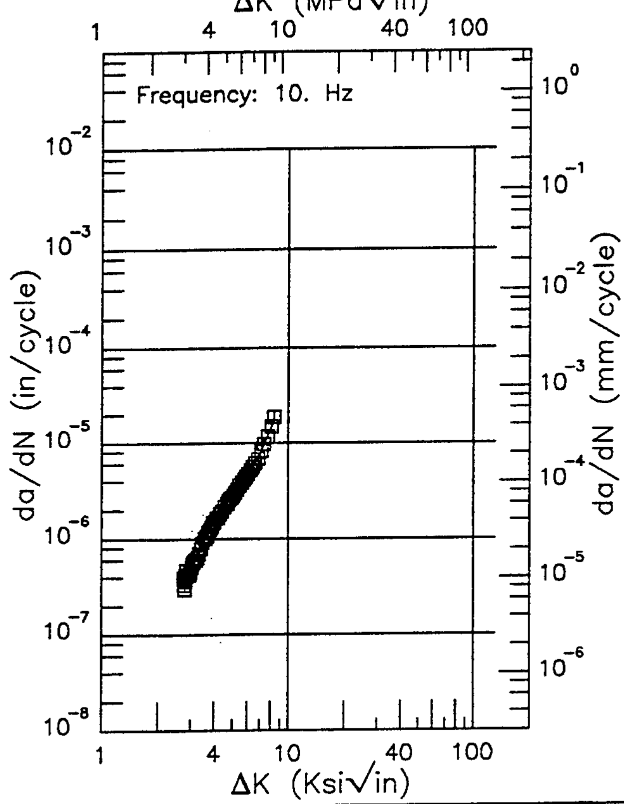
7050

F

Condition/Ht: T7651
Form: 0.75 – 1 in. Plate
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.8
Environment: LAB AIR; RT

Yield Strength: 15 – 69.4 ksi
Ult. Strength: 79.3 ksi
Specimen Thk: 0.246 – 0.25 in.
Specimen Width: 2 – 2.006 in.
Ref: DA004;DA005

(1 of 2)



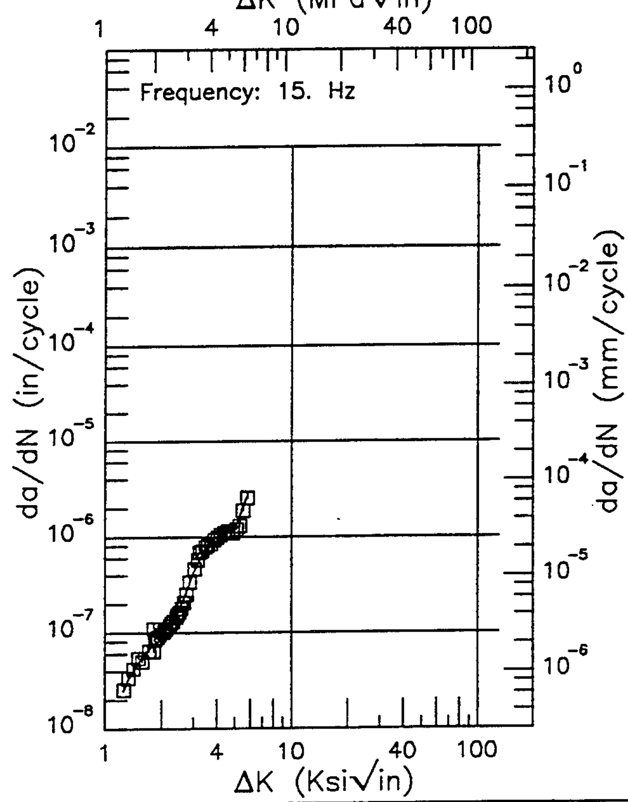
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.74 (min)	0.338
3.	0.485
3.5	0.900
4.	1.47
5.	2.78
6.	4.49
7.	7.52
8.	13.9
8.39 (max)	18.2

RMS % Error
5.99

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.25 (min)	0.0248
1.3	0.0304
1.6	0.0584
2.	0.0888
2.5	0.177
3.	0.430
3.5	0.796
4.	0.998
5.	1.17
5.79 (max)	2.63

RMS % Error
10.66

Life Prediction Ratio Summary

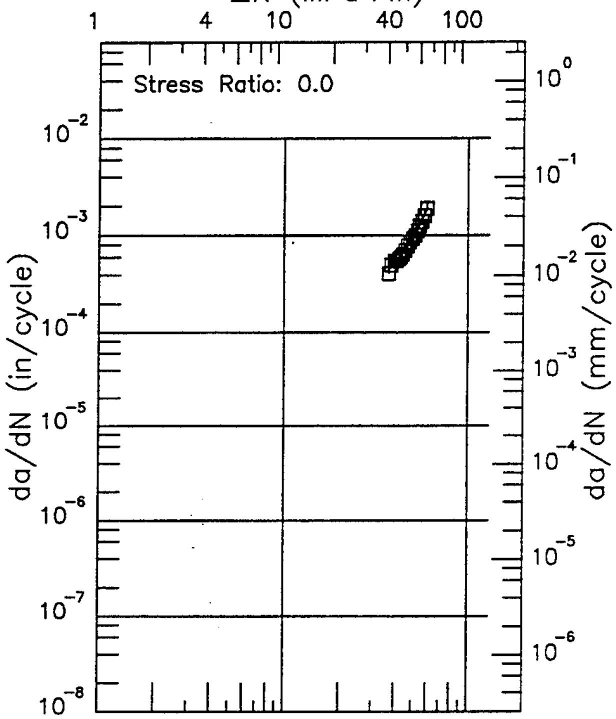
0. .5 .8 1.25 2.

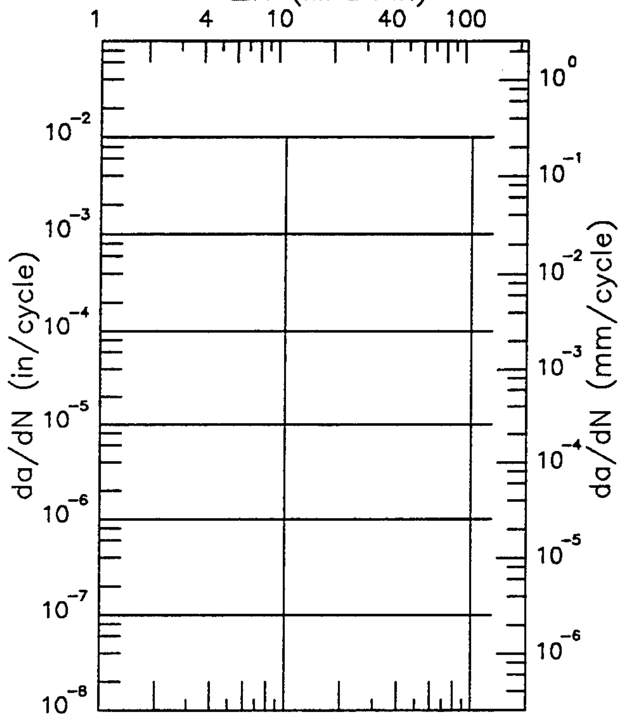
Figure 8.7.3.1.95

Condition/Ht: T7651
Form: 0.75 in. Plate
Specimen Type: CCP (max load specified)
Orientation: L–T
Frequency: 1 Hz
Environment: LAB AIR; RT

Yield Strength: 69.4 ksi
Ult. Strength: 79.3 ksi
Specimen Thk: 0.2 in.
Specimen Width: 11.994 in.
Ref: DA004

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
36.79 (min)	445.
40.	535.
50.	922.
59.65 (max)	1831.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
3.89	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

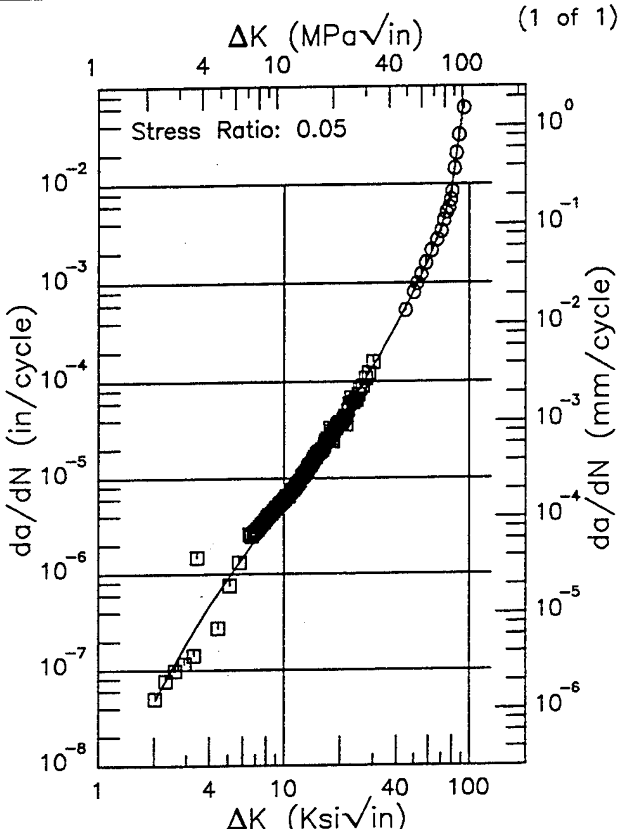
Figure 8.7.3.1.96

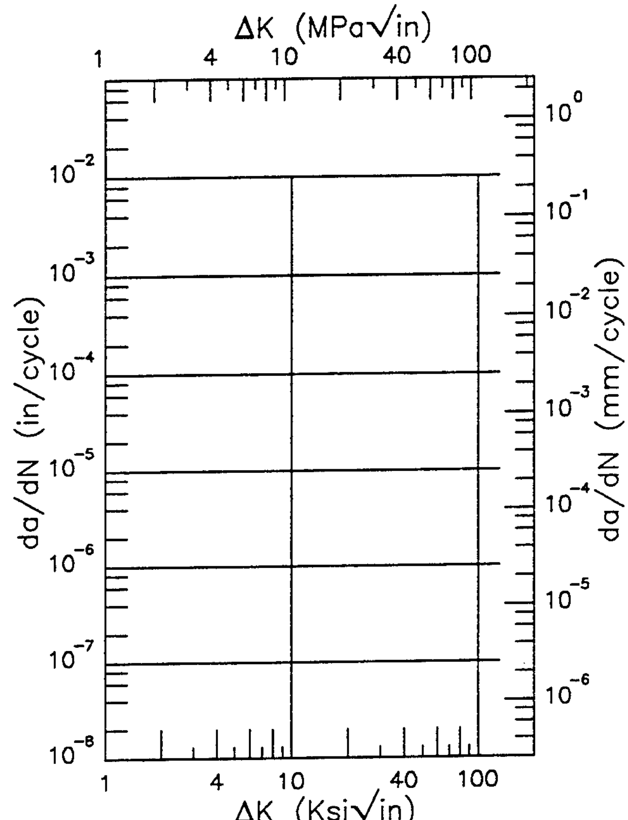
R 7050

Condition/Ht: T7651
Form: 0.75 – 1 in. Plate
Specimen Type: CCP (max load specified)
Orientation: L–T
Frequency: 5 Hz
Environment: LAB AIR; RT

Yield Strength: 69.4 – 71.2 ksi
Ult. Strength: 79.3 ksi
Specimen Thk: 0.199 – 0.204 in.
Specimen Width: 12 – 12.035 in.
Ref: DA005;DA004

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.02 (min)	0.0482
3.	0.189
4.	0.462
5.	0.885
6.	1.47
7.	2.24
8.	3.22
9.	4.41
10.	5.85
16.	21.1
20.	40.2
30.	143.
40.	377.
60.	1672.
80.	9097.
92.72 (max)	70407.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
38.02	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.7.3.1.97

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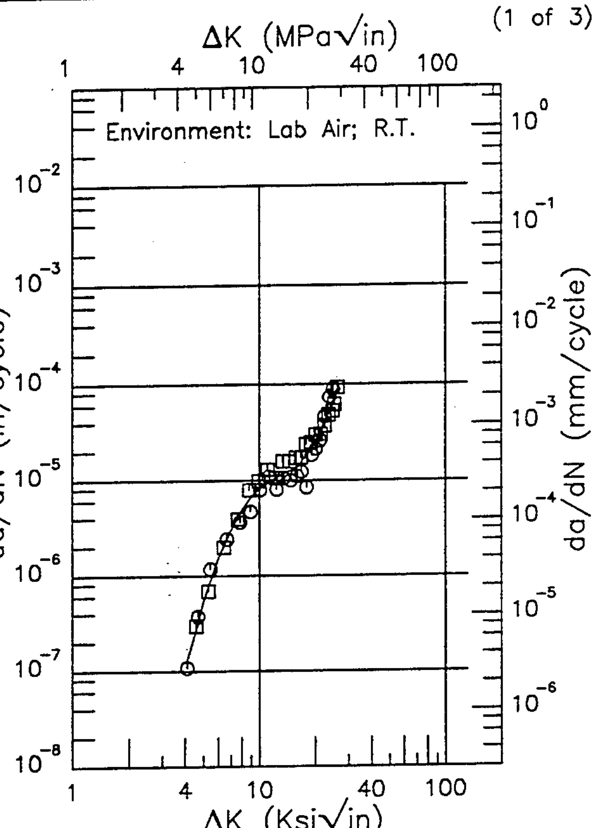
E 7050

Condition/Ht: T7651
Form: 1.25 in. Plate
Specimen Type: WOL
Orientation: L–T
Stress Ratio: 0.02
Frequency: 1 – 20 Hz

Yield Strength: 73.8 ksi
Ult. Strength: 81 ksi
Specimen Thk: 1.25 in.
Specimen Width: 5 in.
Ref: MA005

(1 of 3)



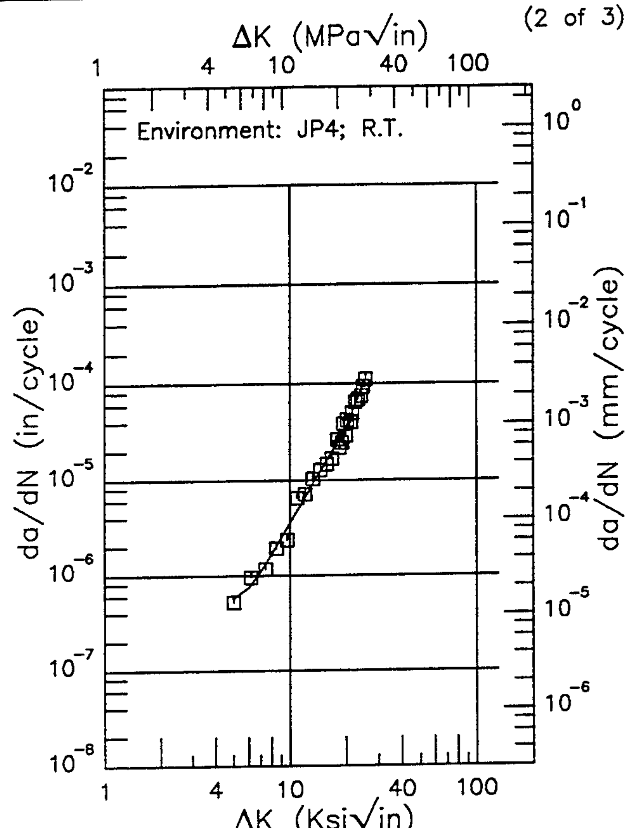
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.08 (min)	0.124
5.	0.535
6.	1.51
7.	3.02
8.	4.83
9.	6.68
10.	8.33
13.	11.3
16.	13.8
20.	24.4
25.	70.3
26.13 (max)	89.2

RMS % Error 21.83

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.00 (min)	0.573
6.	0.749
7.	1.10
8.	1.65
9.	2.46
10.	3.57
13.	8.63
16.	16.5
20.	35.2
25.	101.
25.28 (max)	109.

RMS % Error 14.35

Life Prediction Ratio Summary

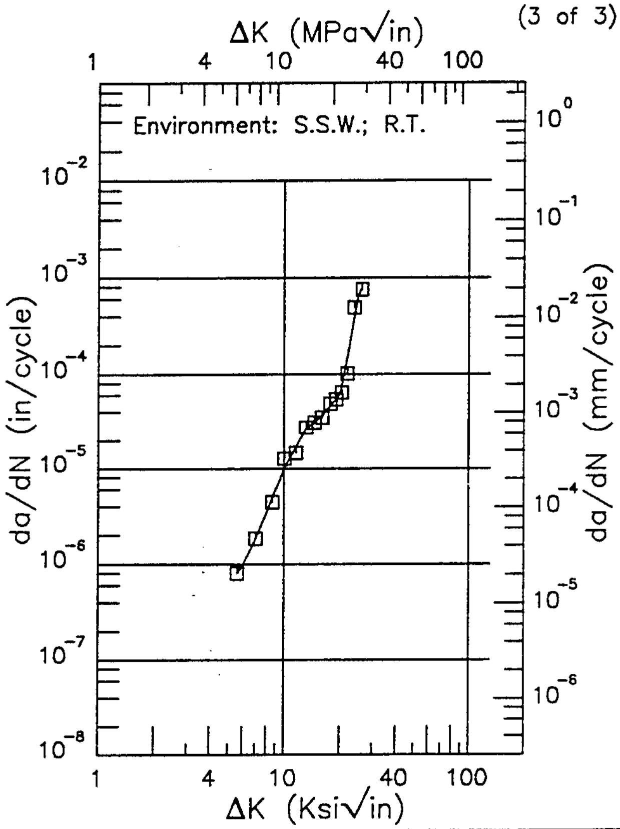
0. .5 .8 1.25 2.

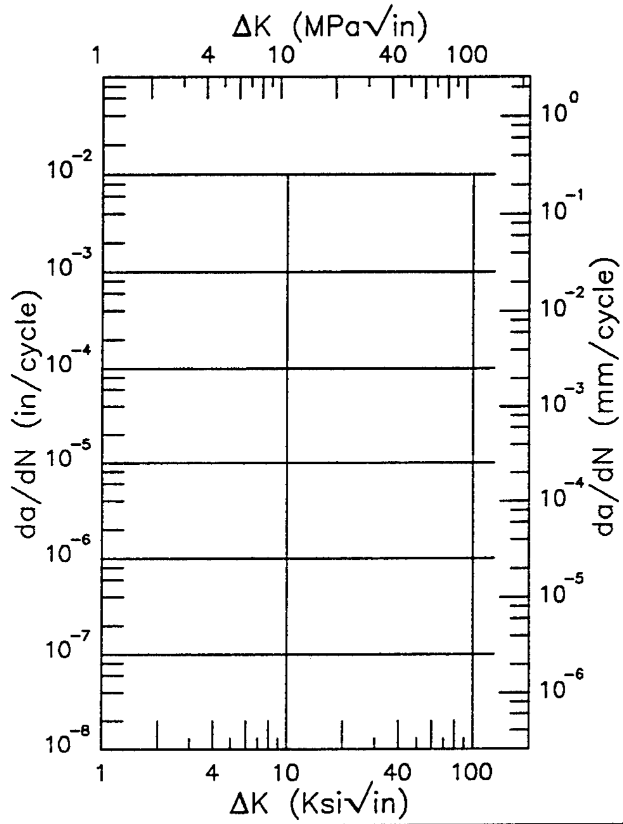
Figure 8.7.3.1.98

Condition/Ht: T7651
Form: 1.25 in. Plate
Specimen Type: WOL
Orientation: L-T
Stress Ratio: 0.02
Frequency: 1 – 20 Hz

Yield Strength: 73.8 ksi
Ult. Strength: 81 ksi
Specimen Thk: 1.25 in.
Specimen Width: 5 in.
Ref: MA005

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.62 (min)	0.802
6.	0.973
7.	1.79
8.	3.38
9.	6.05
10.	9.96
13.	25.6
16.	36.1
20.	61.4
25.	658.
26.23 (max)	794.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
14.65	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

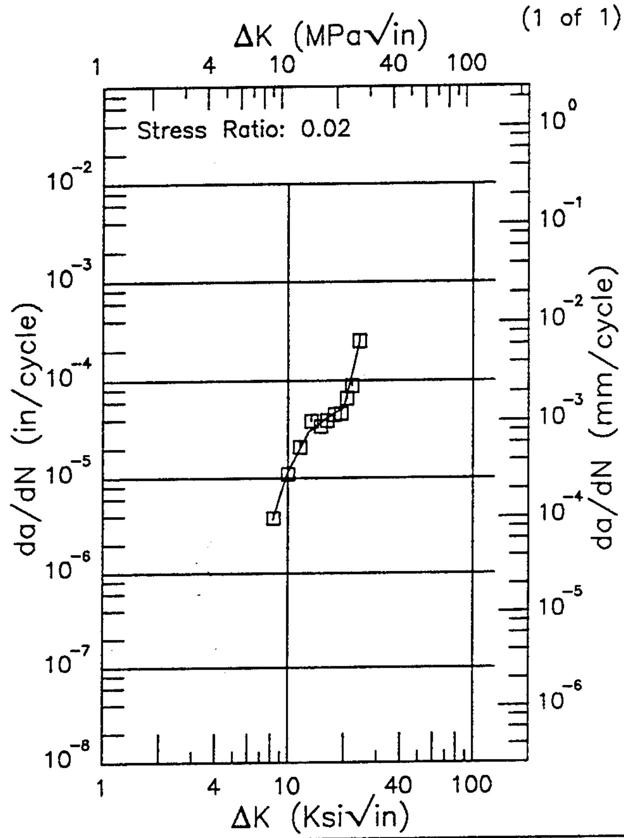
Figure 8.7.3.1.98 (Concluded)

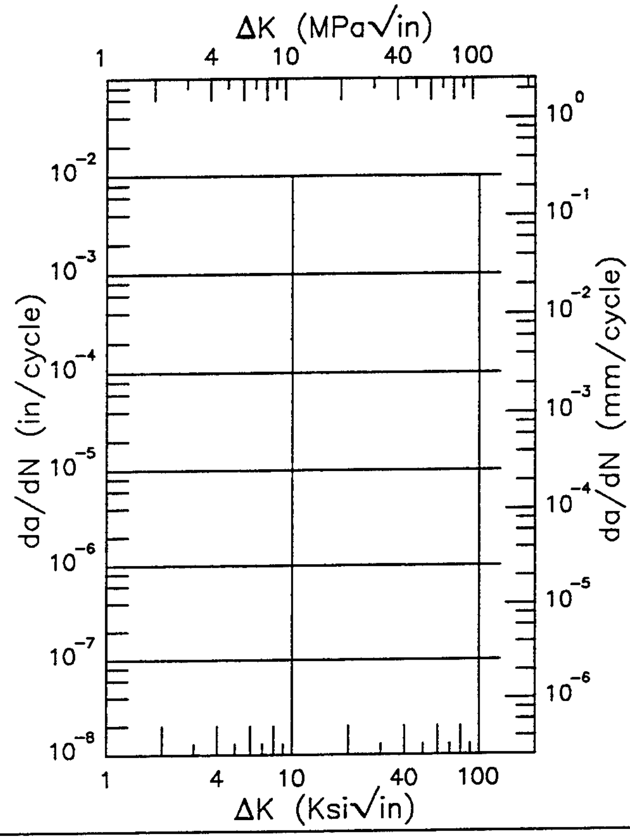
R | 7050

Condition/Ht: T7651
Form: 1.25 in. Plate
Specimen Type: WOL
Orientation: L-T
Frequency: 5 - 15 Hz
Environment: S.S.W.; RT

Yield Strength: 73.8 ksi
Ult. Strength: 81 ksi
Specimen Thk: 1.25 in.
Specimen Width: 5 in.
Ref: MA005

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
8.26 (min)	3.68
9.	6.49
10.	11.6
13.	30.3
16.	41.1
20.	53.0
24.19 (max)	252.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
11.18	0. .5 .8 1.25 2.

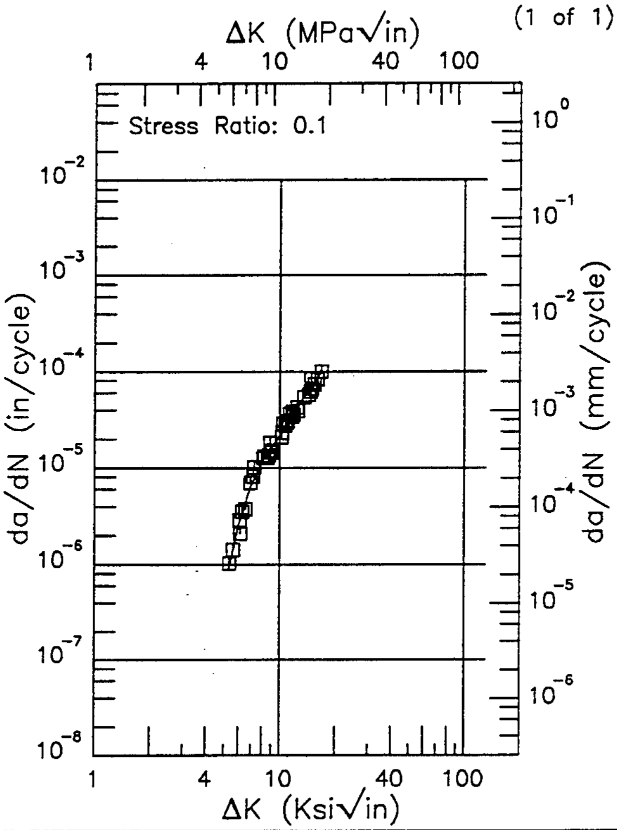
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

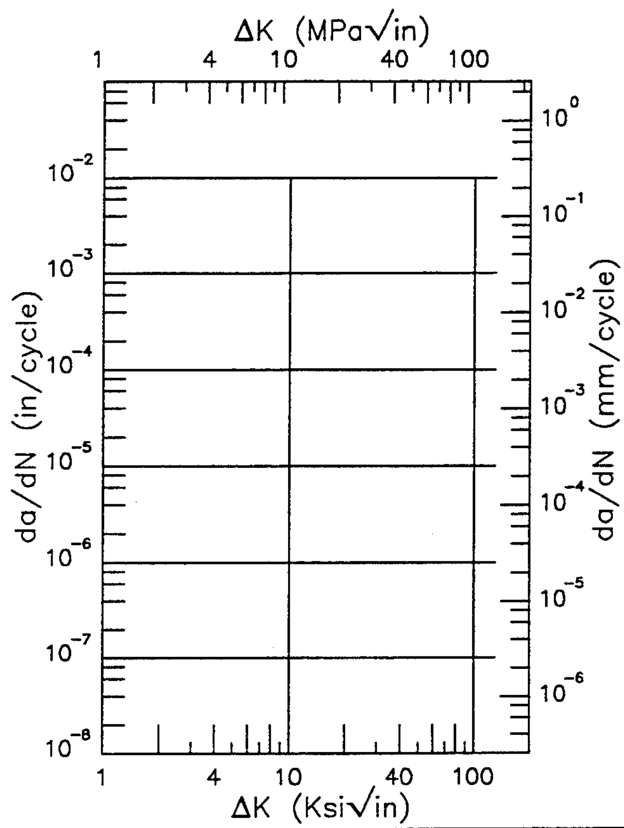
Figure 8.7.3.1.99

Condition/Ht: T7651
Form: 1.13 in. Plate
Specimen Type:
Orientation:
Frequency: 1 Hz
Environment: 3.5% NACL; RT

Yield Strength:
Ult. Strength:
Specimen Thk:
Specimen Width:
Ref: 91332

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.35 (min)	0.903
6.	2.55
7.	6.75
8.	11.7
9.	16.5
10.	21.4
13.	48.2
16.	82.6
16.69 (max)	102.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
11.09	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

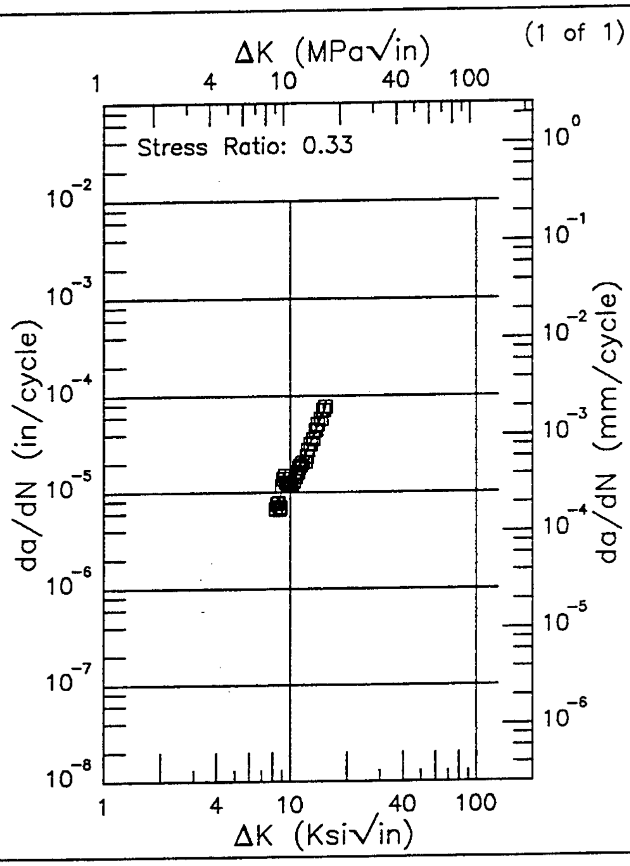
Figure 8.7.3.1.100

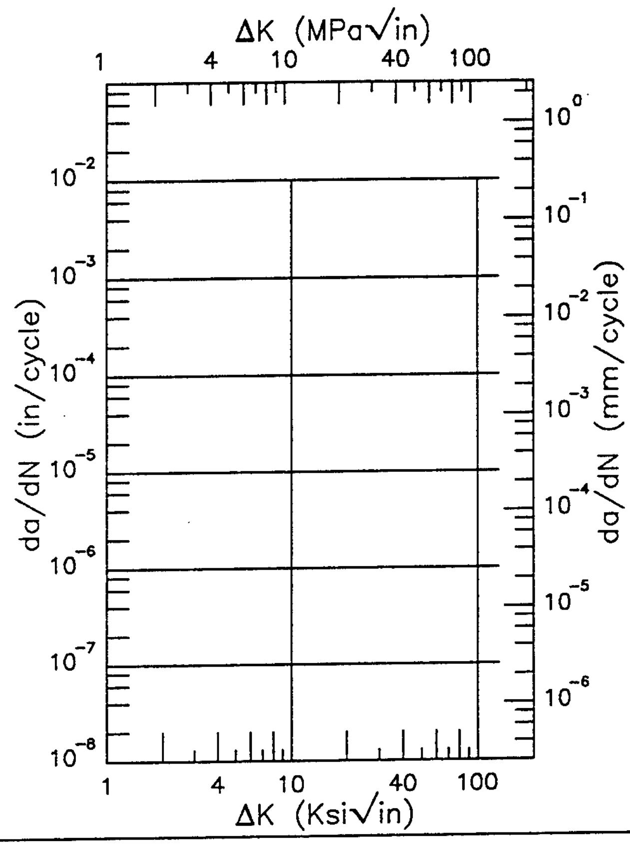
R — 7050

Condition/Ht: T76511
Form: 6 in. Plate
Specimen Type: CT
Orientation: T–L
Frequency: 18.3 Hz
Environment: H.H.A.; RT

Yield Strength: 59.1 ksi
Ult. Strength: 70.5 ksi
Specimen Thk: 0.998 in.
Specimen Width: 3.801 in.
Ref: AL004

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
8.28 (min)	5.66
9.	10.6
10.	12.8
13.	34.1
15.36 (max)	76.7

ΔK (Ksi√in) da/dN (10^{-6} in/cycle)

RMS % Error	Life Prediction Ratio Summary
12.71	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.7.3.1.101

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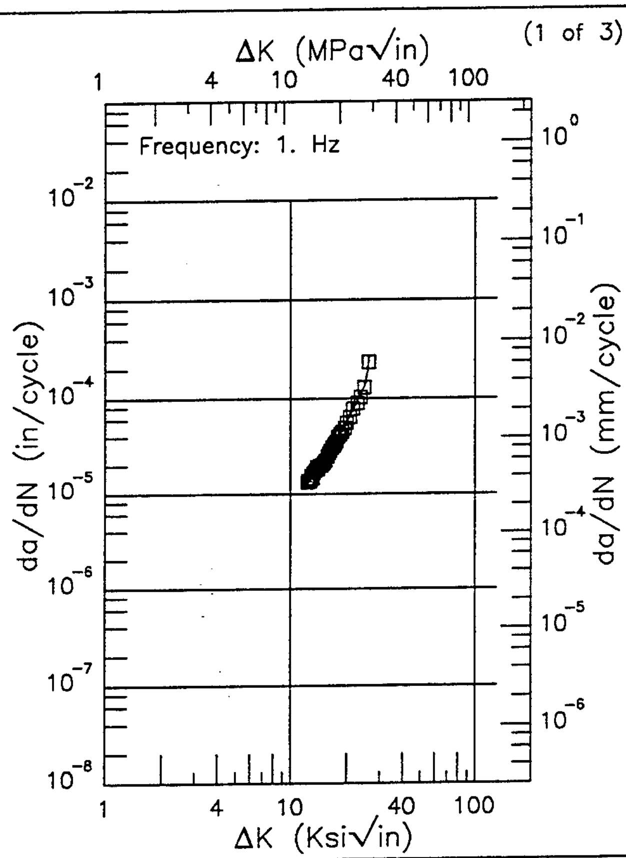
F

7050

Condition/Ht: T76511
Form: 0.75 – 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.1
Environment: LAB AIR; RT

Yield Strength: 72.2 – 80.6 ksi
Ult. Strength: 87 ksi
Specimen Thk: 0.244 – 0.252 in.
Specimen Width: 2 – 2.008 in.
Ref: DA004;DA005

(1 of 3)



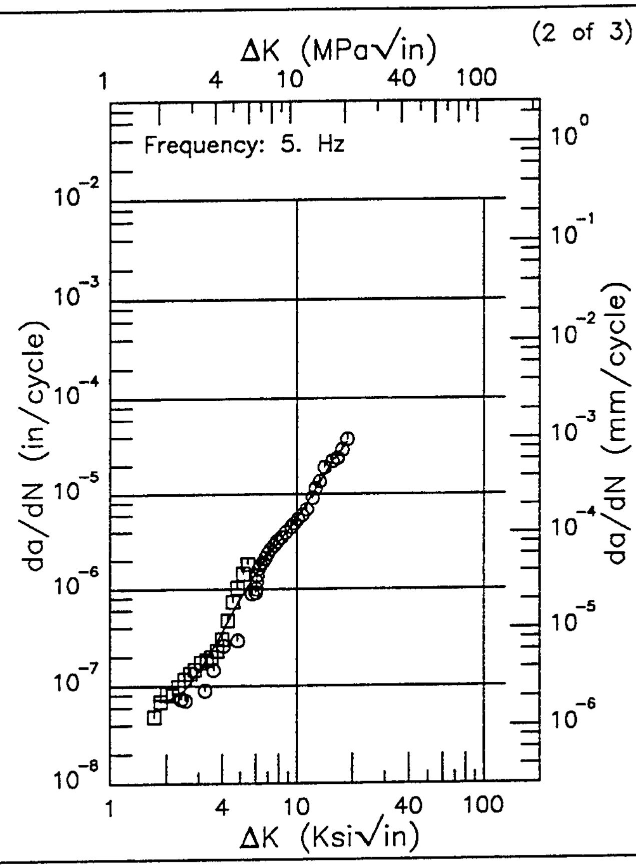
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
12.26 (min)	12.8
13.	15.3
16.	26.4
20.	57.9
25.	139.
26.13 (max)	234.

RMS % Error: 3.57

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.72 (min)	0.0733
2.	0.0695
2.5	0.0900
3.	0.140
3.5	0.225
4.	0.358
5.	0.791
6.	1.44
7.	2.21
8.	3.09
9.	4.16
10.	5.49
13.	12.2
16.	23.3
18.78 (max)	35.2

RMS % Error: 24.69

Life Prediction Ratio Summary

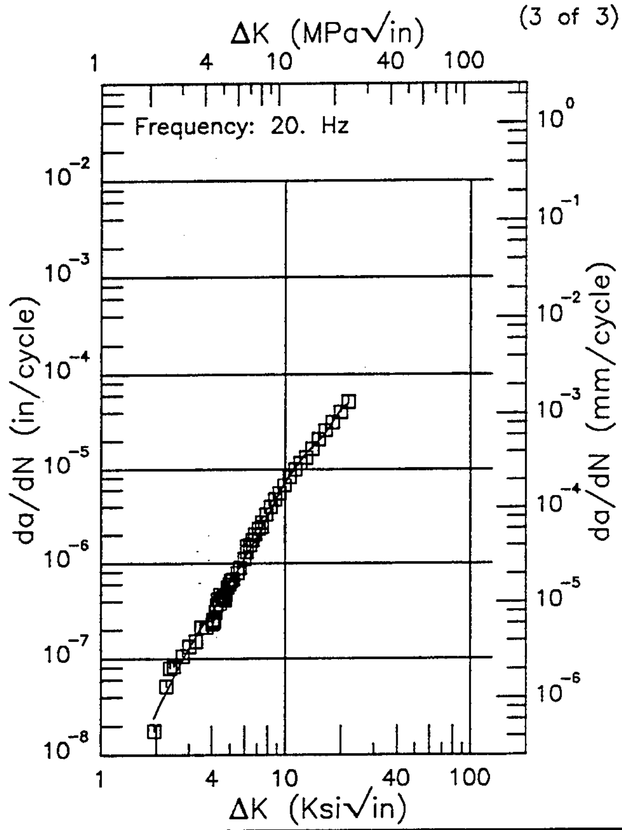
0. .5 .8 1.25 2.

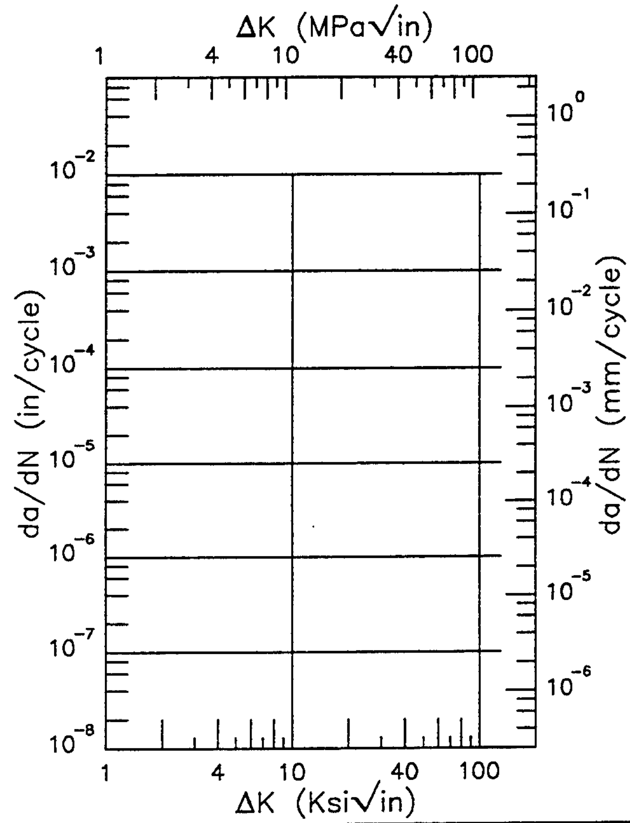
Figure 8.7.3.1.102

Condition/Ht: T76511
Form: 0.75 – 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.1
Environment: LAB AIR; RT

Yield Strength: 72.2 – 80.6 ksi
Ult. Strength: 87 ksi
Specimen Thk: 0.244 – 0.252 in.
Specimen Width: 2 – 2.008 in.
Ref: DA004;DA005

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.94 (min)	0.0238
2.	0.0276
2.5	0.0680
3.	0.128
3.5	0.209
4.	0.313
5.	0.616
6.	1.11
7.	1.90
8.	3.18
9.	5.00
10.	7.31
13.	14.8
16.	22.5
20.	42.9
21.87 (max)	50.0

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
13.28	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

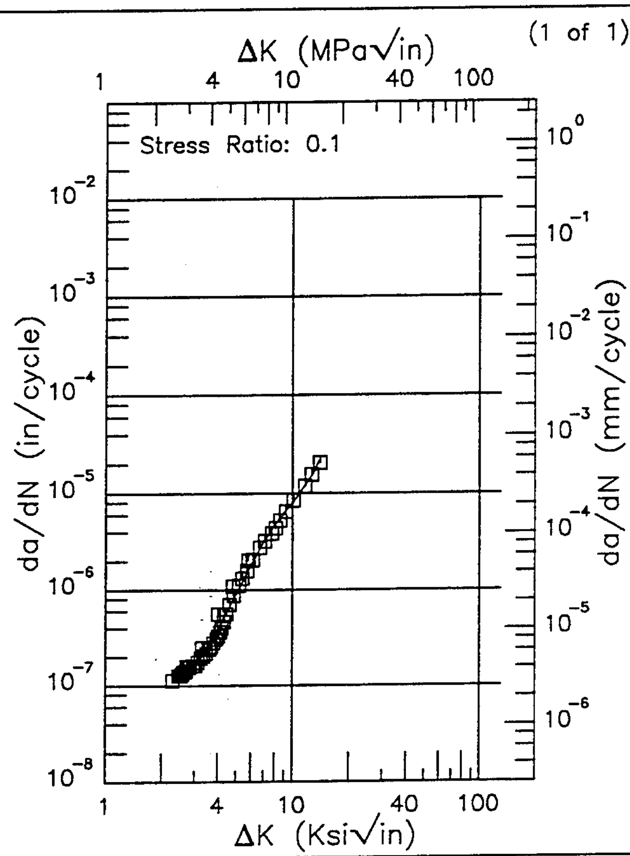
Figure 8.7.3.1.102 (Concluded)

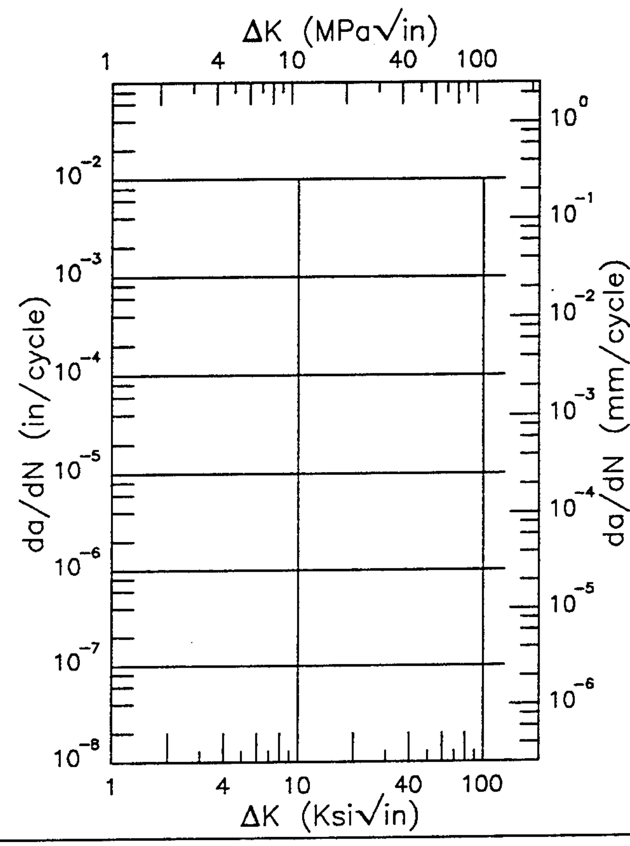
R 7050

Condition/Ht: T76511
Form: 0.75 in. Extrusion
Specimen Type: CT
Orientation: L−T
Frequency: 5 Hz
Environment: LAB AIR; RT

Yield Strength: 80.6 ksi
Ult. Strength: 87 ksi
Specimen Thk: 0.498 in.
Specimen Width: 1.998 in.
Ref: DA004

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.29 (min)	0.118
2.5	0.123
3.	0.163
3.5	0.246
4.	0.385
5.	0.901
6.	1.83
7.	3.17
8.	4.75
9.	6.31
10.	7.91
13.	16.4
13.95 (max)	22.1

ΔK (Ksi√in) da/dN (10^{-6}in/cycle)

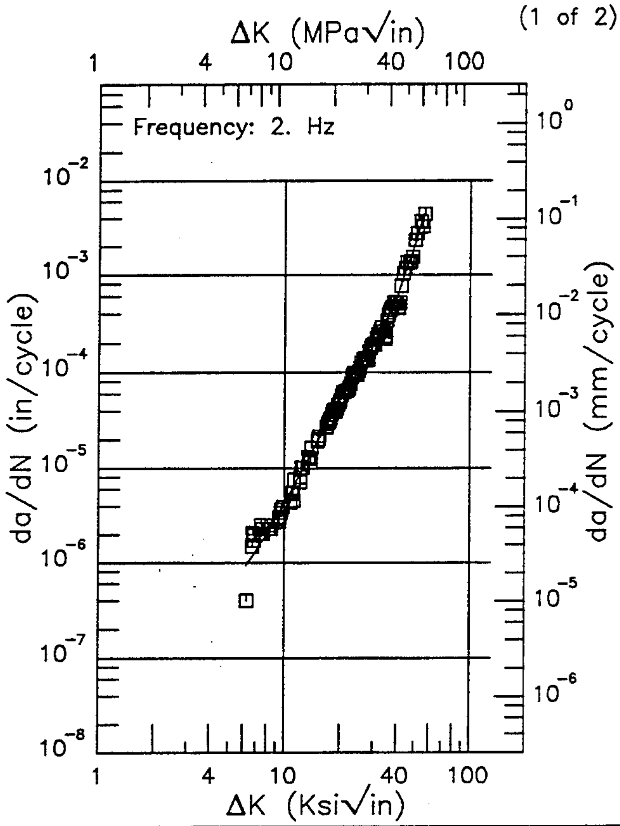
RMS % Error	Life Prediction Ratio Summary
12.40	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.7.3.1.103

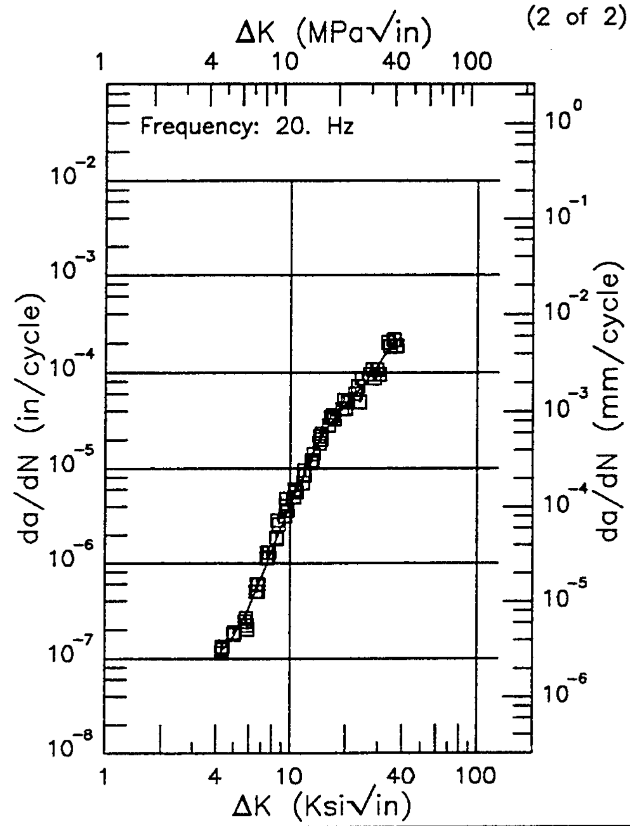
Condition/Ht: T76511
Form: 0.44 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.1
Environment: H.H.A.; RT

Yield Strength:
Ult. Strength:
Specimen Thk: 0.151 – 0.152 in.
Specimen Width: 3 in.
Ref: 86844



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.23 (min)	0.938
7.	1.32
8.	2.00
9.	2.98
10.	4.30
13.	11.1
16.	23.7
20.	51.7
25.	106.
30.	187.
35.	327.
40.	589.
50.	2076.
56.19 (max)	4450.

RMS % Error	Life Prediction Ratio Summary
16.11	0. .5 .8 1.25 2.



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.28 (min)	0.117
5.	0.172
6.	0.340
7.	0.692
8.	1.35
9.	2.48
10.	4.22
13.	13.6
16.	27.0
20.	47.1
25.	74.8
30.	118.
35.	190.
37.08 (max)	224.

RMS % Error	Life Prediction Ratio Summary
15.69	0. .5 .8 1.25 2.

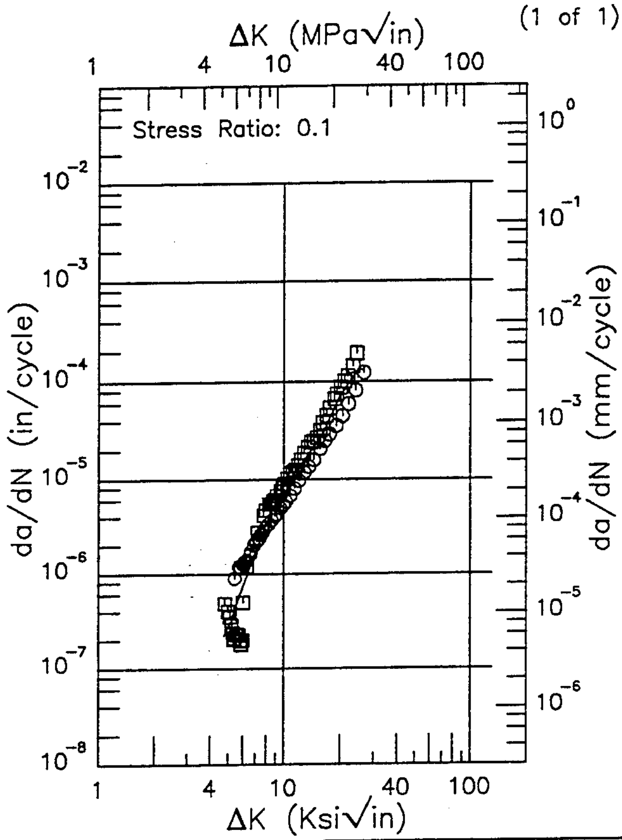
Figure 8.7.3.1.104

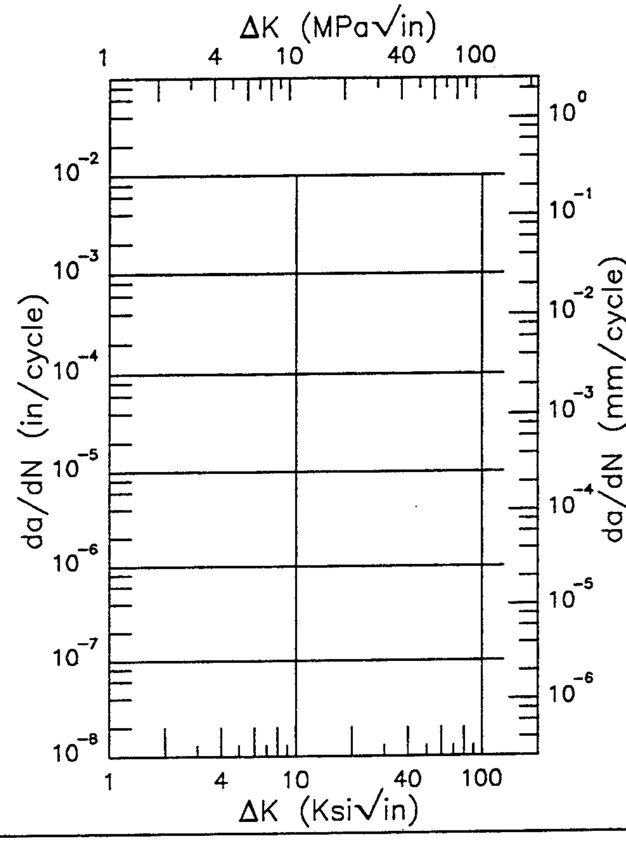
R | 7050

Condition/Ht: T76511
Form: 0.75 – 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Frequency: 1 Hz
Environment: DIST WATER; RT

Yield Strength: 77 – 80.6 ksi
Ult. Strength: 87 ksi
Specimen Thk: 0.251 in.
Specimen Width: 2 – 2.003 in.
Ref: DA004;DA005

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.79 (min)	0.223
5.	0.276
6.	0.726
7.	1.68
8.	3.32
9.	5.66
10.	8.43
13.	16.5
16.	29.3
20.	72.7
25.	134.
26.54 (max)	129.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
40.84

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

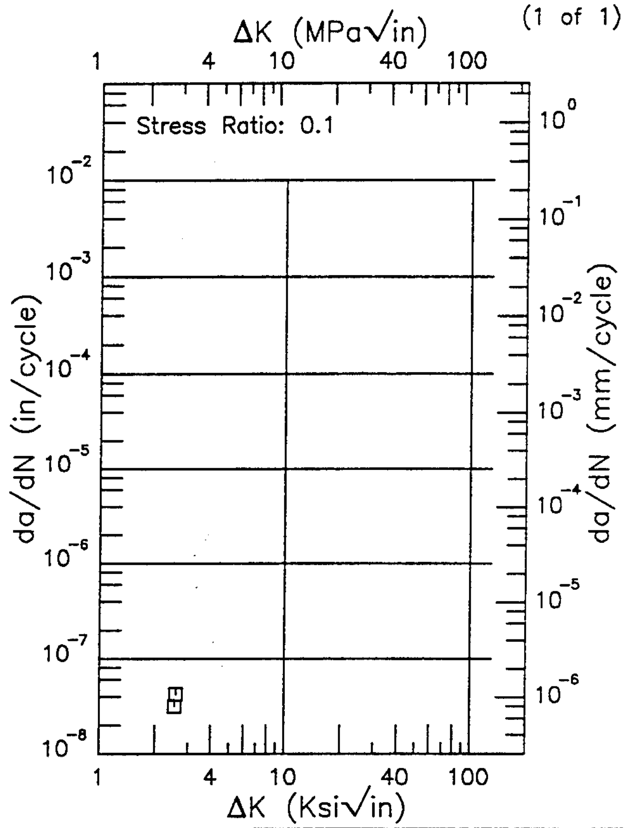
0. .5 .8 1.25 2.

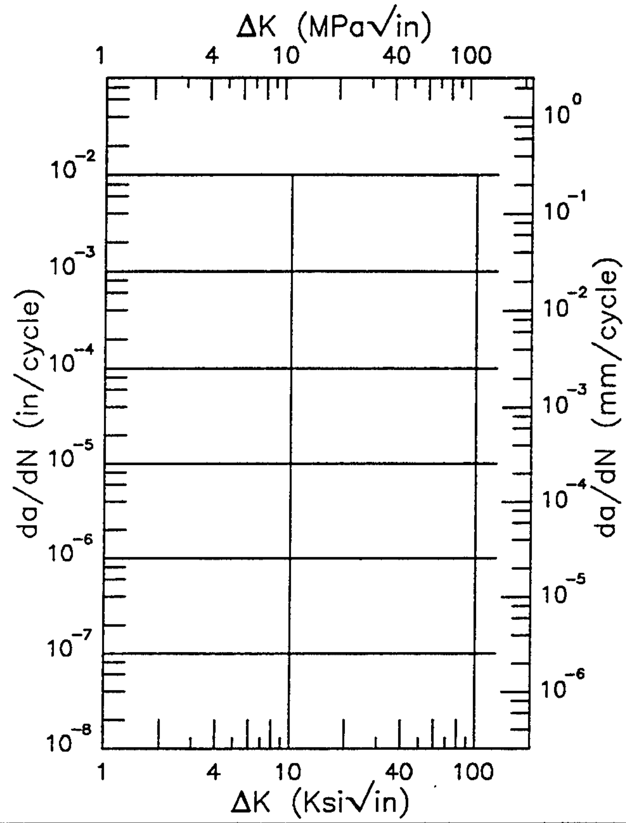
Figure 8.7.3.1.105

Condition/Ht: T76511
Form: 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Frequency: 5 – 20 Hz
Environment: H2O(D)/LAB AIR; RT

Yield Strength: 77 ksi
Ult. Strength:
Specimen Thk: 0.251 in.
Specimen Width: 2.003 in.
Ref: DA005

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)	ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary	RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.		0. .5 .8 1.25 2.

Figure 8.7.3.1.106

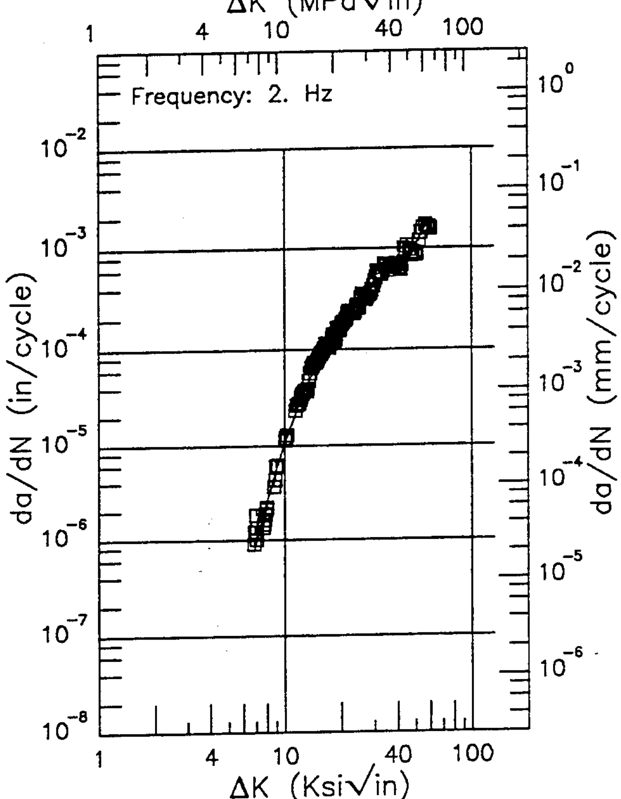
7050

F

Condition/Ht: T76511
Form: 0.44 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.1
Environment: 3.5% NACL; RT

Yield Strength:
Ult. Strength:
Specimen Thk: 0.152 in.
Specimen Width: 3 in.
Ref: 86844

(1 of 2)



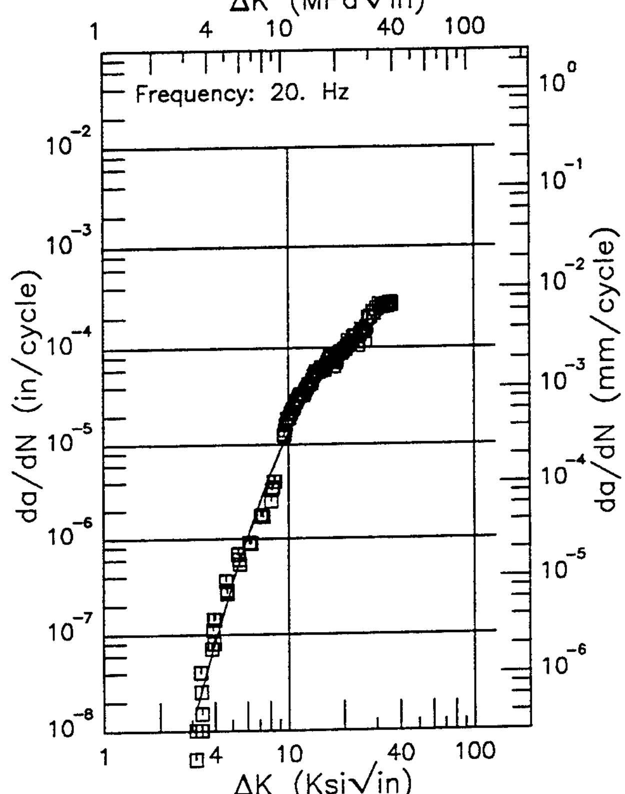
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.83 (min)	0.769
7.	0.939
8.	2.58
9.	5.72
10.	10.9
13.	41.1
16.	93.1
20.	184.
25.	309.
30.	439.
35.	583.
40.	740.
50.	1051.
59.30 (max)	1927.

RMS % Error 15.08

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.12 (min)	0.0151
3.5	0.0332
4.	0.0812
5.	0.339
6.	1.01
7.	2.38
8.	4.76
9.	8.36
10.	13.3
13.	35.6
16.	63.9
20.	103.
25.	156.
30.	219.
35.	281.
35.92 (max)	291.

RMS % Error 30.42

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.7.3.1.107

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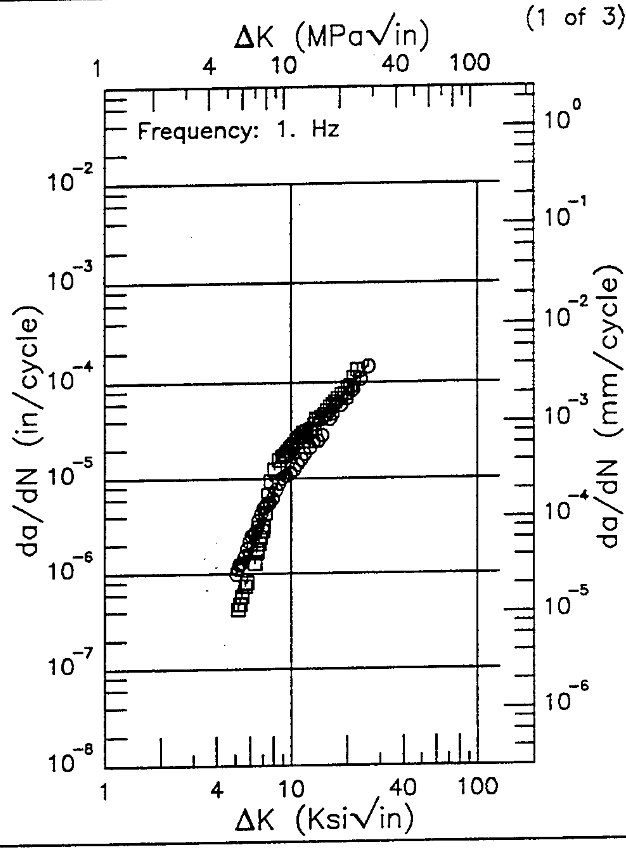
F 7050

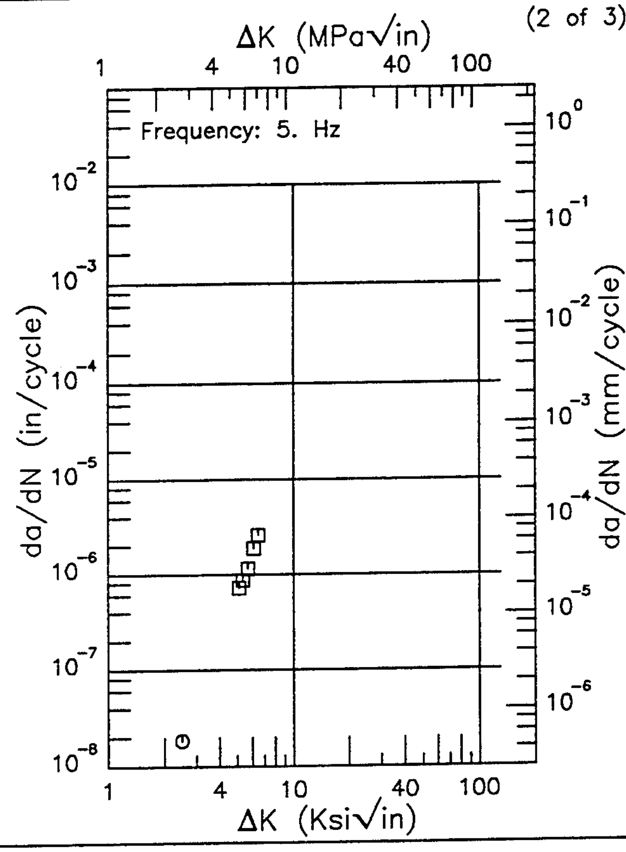
Condition/Ht: T76511
Form: 0.75 – 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.1
Environment: S.T.W.; RT

Yield Strength: 77 – 80.6 ksi
Ult. Strength: 87 ksi
Specimen Thk: 0.248 – 0.251 in.
Specimen Width: 2 – 2.005 in.
Ref: DA004;DA005

(1 of 3)



(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.07 (min)	0.589
6.	1.81
7.	4.20
8.	7.63
9.	11.9
10.	16.7
13.	33.0
16.	51.0
20.	80.4
25.	136.
25.93 (max)	149.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
28.79	0. .5 .8 1.25 2.

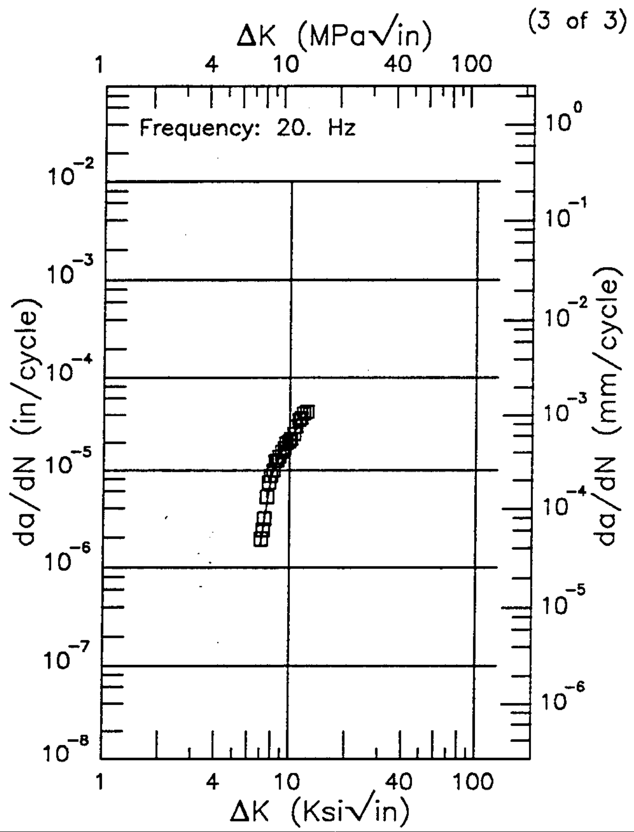
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

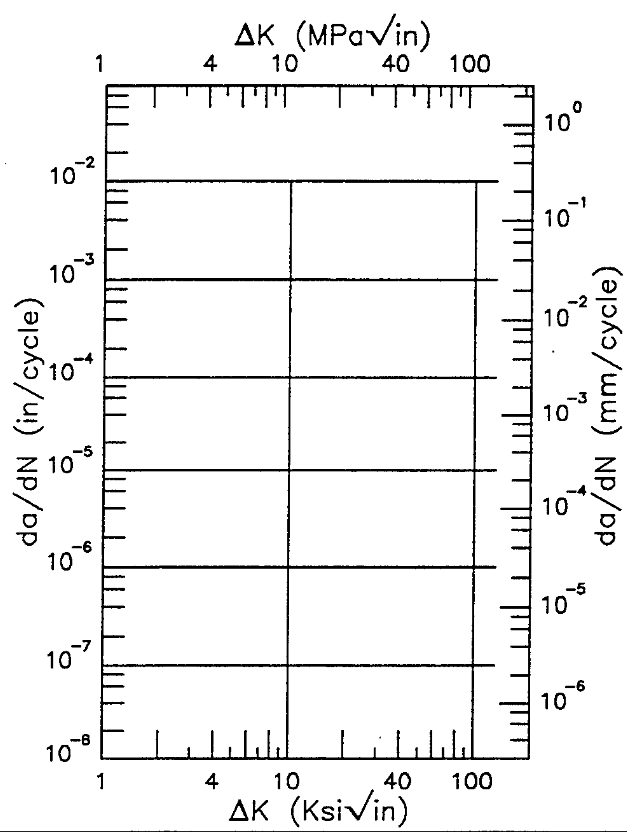
Figure 8.7.3.1.108

Condition/Ht: T76511
Form: 0.75 – 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.1
Environment: S.T.W.; RT

Yield Strength: 77 – 80.6 ksi
Ult. Strength: 87 ksi
Specimen Thk: 0.248 – 0.251 in.
Specimen Width: 2 – 2.005 in.
Ref: DA004;DA005

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
7.03 (min)	1.69
8.	8.83
9.	15.6
10.	21.3
12.27 (max)	41.9

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
9.72	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

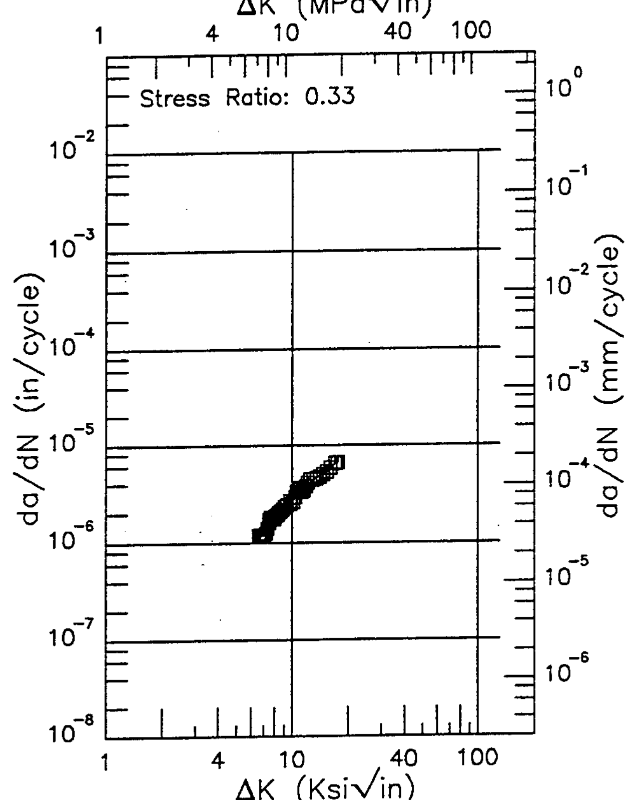
Figure 8.7.3.1.108 (Concluded)

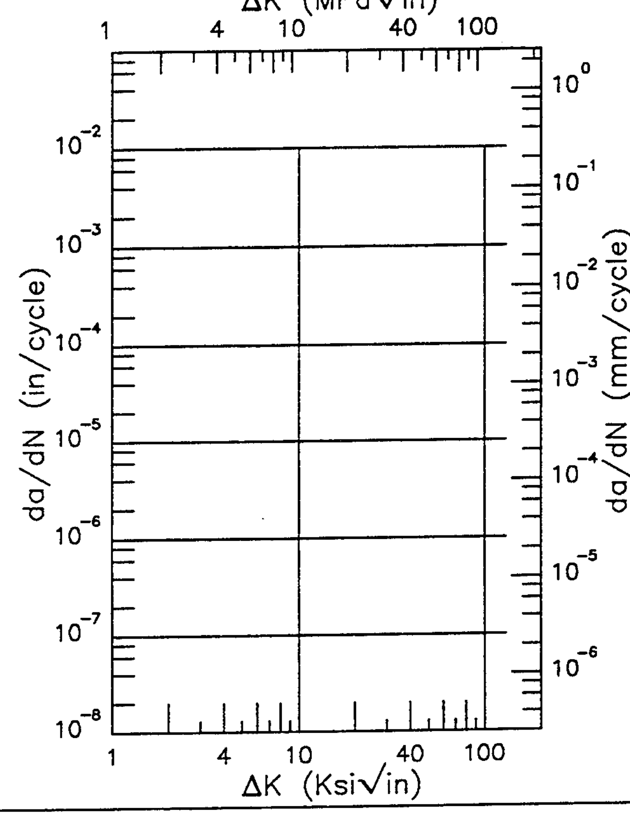
R 7050

Condition/Ht: T76511
Form: 5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Frequency: 18.3 Hz
Environment: L.H.A.; RT

Yield Strength: 82.3 ksi
Ult. Strength: 87.6 ksi
Specimen Thk: 1 in.
Specimen Width: 3.801 in.
Ref: AL004

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.63 (min)	1.08
7.	1.27
8.	1.78
9.	2.28
10.	2.79
13.	4.42
16.	5.62
17.43 (max)	6.89

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
5.51	0. .5 .8 1.25 2.

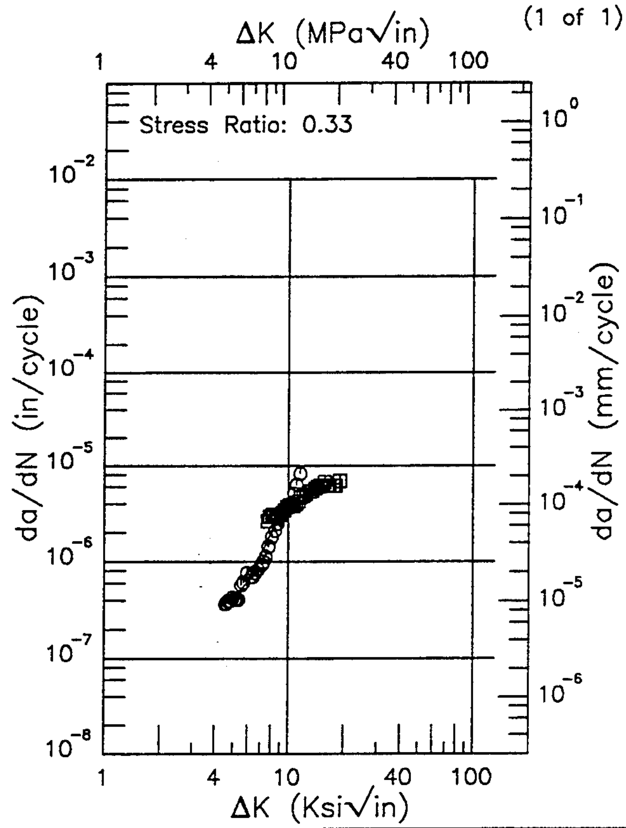
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

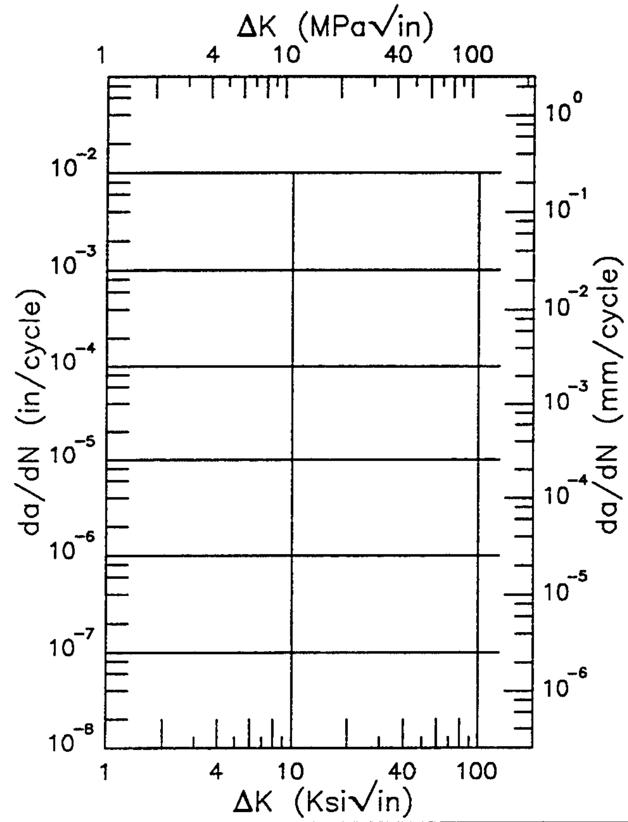
Figure 8.7.3.1.109

Condition/Ht: T76511
Form: 1.16 – 5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Frequency: 18.3 Hz
Environment: L.H.A.; RT

Yield Strength: 76.4 – 82.3 ksi
Ult. Strength: 83.6 – 87.6 ksi
Specimen Thk: 1.001 – 1.003 in.
Specimen Width: 3.1 in.
Ref: AL004

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.53 (min)	0.402
5.	0.403
6.	0.622
7.	1.14
8.	1.96
9.	2.92
10.	3.85
13.	5.53
16.	6.07
18.83 (max)	6.45

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
20.77

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

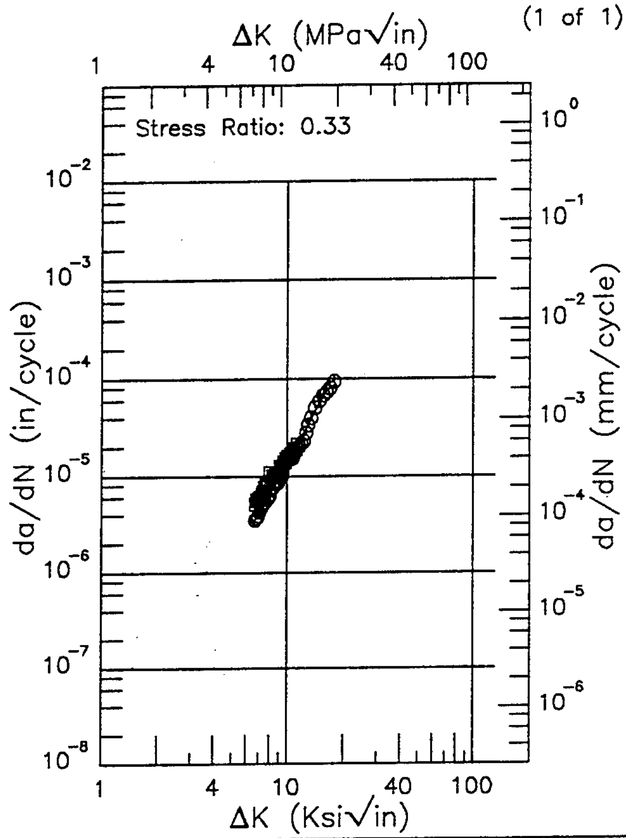
Figure 8.7.3.1.110

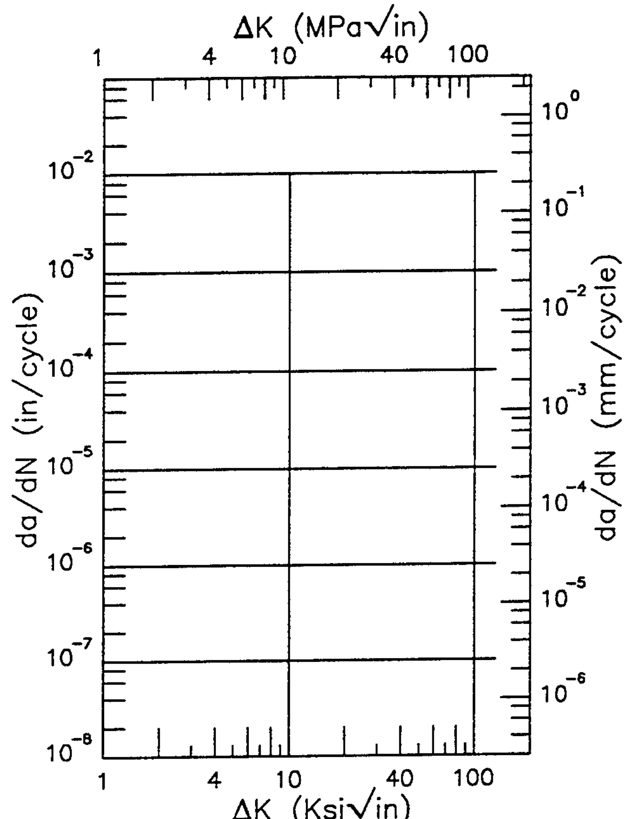
R — 7050

Condition/Ht: T76511
Form: 1.16 – 5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Frequency: 18.3 Hz
Environment: H.H.A.; RT

Yield Strength: 76.4 – 82.6 ksi
Ult. Strength: 83.6 – 87.6 ksi
Specimen Thk: 1 in.
Specimen Width: 3.801 in.
Ref: AL004

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
6.70 (min)	3.97
7.	4.76
8.	7.51
9.	10.4
10.	13.8
13.	34.3
16.	75.4
17.68 (max)	86.2

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error	Life Prediction Ratio Summary
13.42	0. .5 .8 1.25 2.

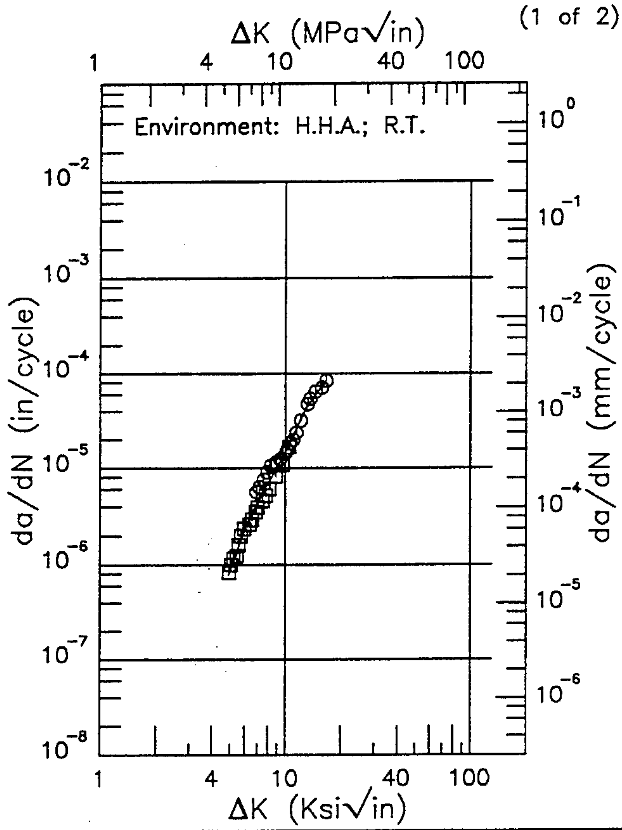
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.7.3.1.111

Condition/Ht: T76511
Form: 1.16 – 5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.33
Frequency: 18.3 Hz

Yield Strength: 76.4 – 82.3 ksi
Ult. Strength: 83.6 – 87.6 ksi
Specimen Thk: 0.999 – 1.007 in.
Specimen Width: 3.1 in.
Ref: AL004

(1 of 2)



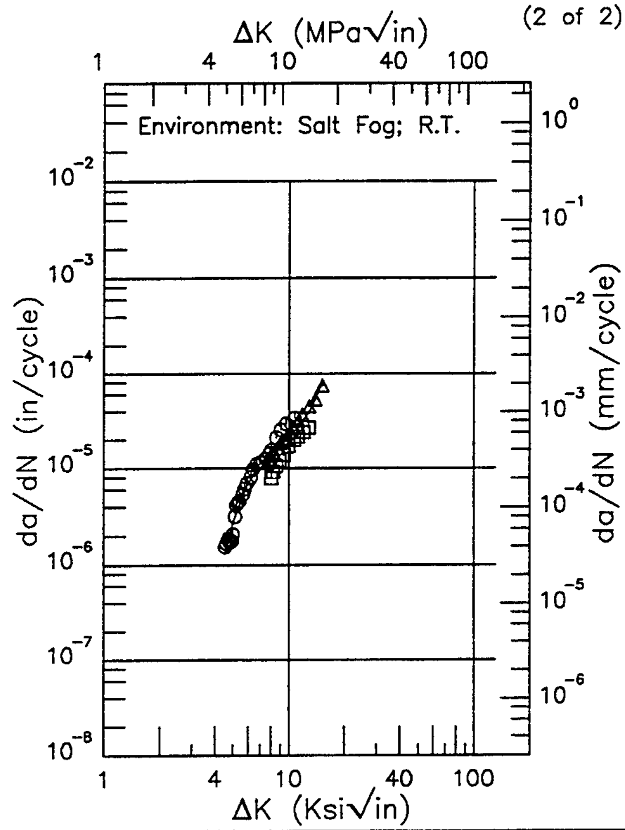
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.95 (min)	0.788
5.	0.842
6.	2.32
7.	4.37
8.	6.93
9.	10.2
10.	14.7
13.	42.8
16.	76.6
16.56 (max)	78.7

RMS % Error: 15.69

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.52 (min)	1.30
5.	2.73
6.	6.88
7.	11.1
8.	14.5
9.	17.4
10.	20.6
13.	39.6
15.13 (max)	78.8

RMS % Error: 20.78

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.7.3.1.112

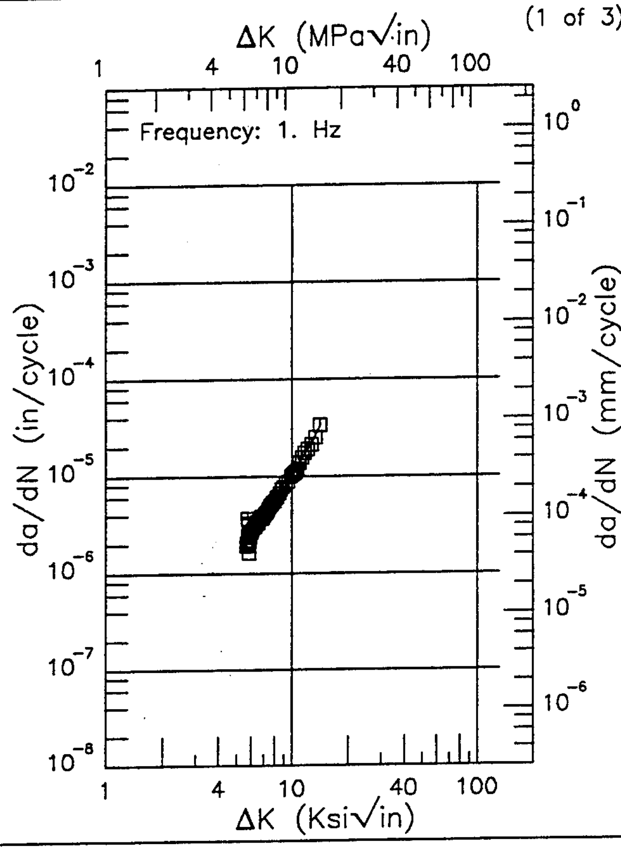
7050

F

Condition/Ht: T76511
Form: 0.75 – 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.4
Environment: LAB AIR; RT

Yield Strength: 77 – 80.6 ksi
Ult. Strength: 87 ksi
Specimen Thk: 0.25 – 0.252 in.
Specimen Width: 2.003 in.
Ref: DA004;DA005

(1 of 3)

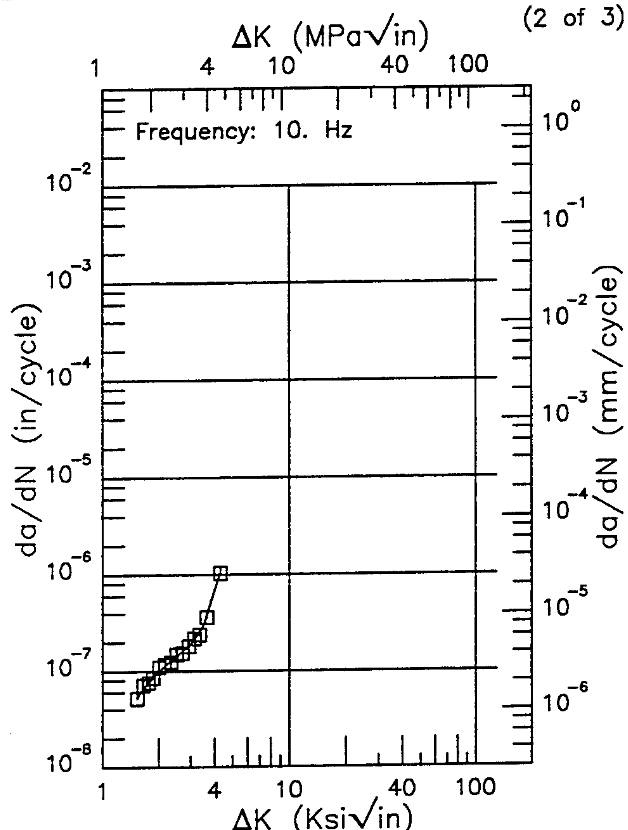


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.64 (min)	2.32
6.	2.69
7.	3.98
8.	5.62
9.	7.66
10.	10.4
13.	23.4
14.06 (max)	33.3

RMS % Error: 10.98

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.53 (min)	0.0522
1.6	0.0606
2.	0.101
2.5	0.142
3.	0.190
3.5	0.302
4.	0.700
4.26 (max)	1.02

RMS % Error: 4.15

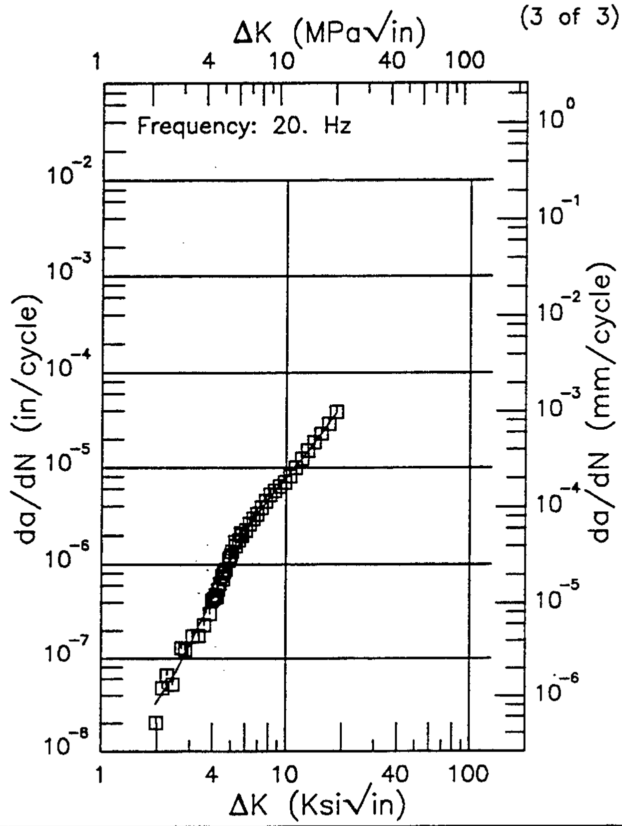
Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

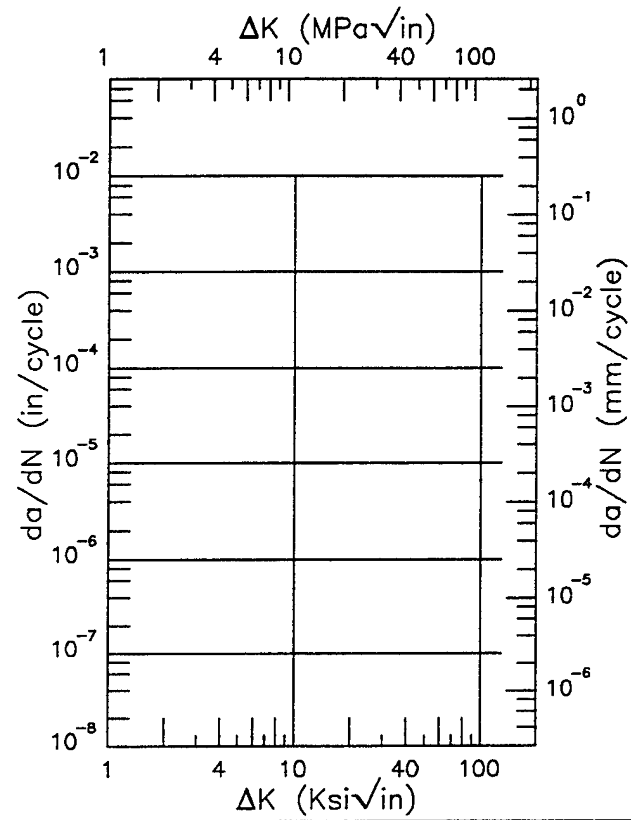
Figure 8.7.3.1.113

Condition/Ht: T76511
Form: 0.75 – 1.5 in. Extrusion
Specimen Type: CT
Orientation: L-T
Stress Ratio: 0.4
Environment: LAB AIR; RT

Yield Strength: 77 – 80.6 ksi
Ult. Strength: 87 ksi
Specimen Thk: 0.25 – 0.252 in.
Specimen Width: 2.003 in.
Ref: DA004;DA005

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.97 (min)	0.0327
2.	0.0343
2.5	0.0702
3.	0.141
3.5	0.264
4.	0.460
5.	1.12
6.	2.13
7.	3.37
8.	4.74
9.	6.23
10.	7.89
13.	14.4
16.	25.4
18.46 (max)	37.7

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
13.53	0. .5 .8 1.25 2.

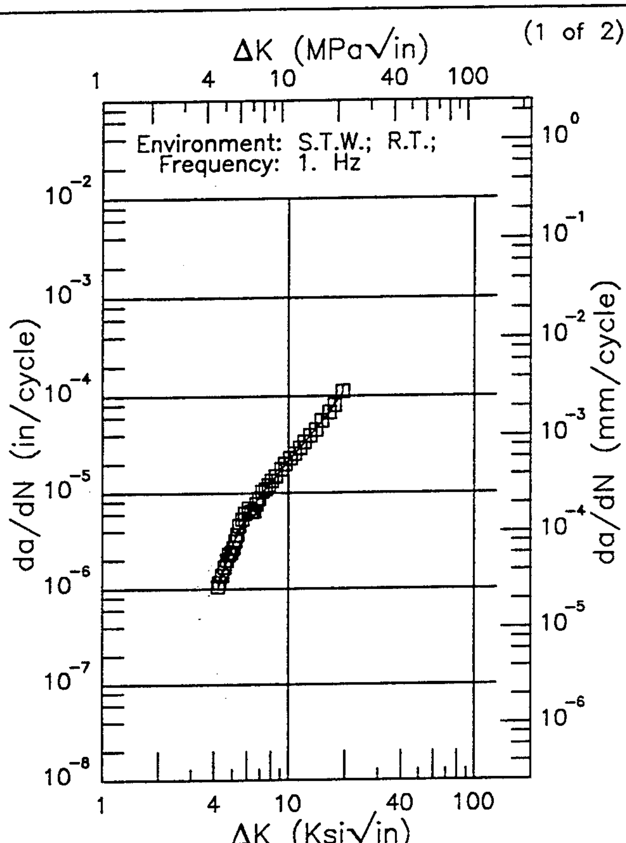
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

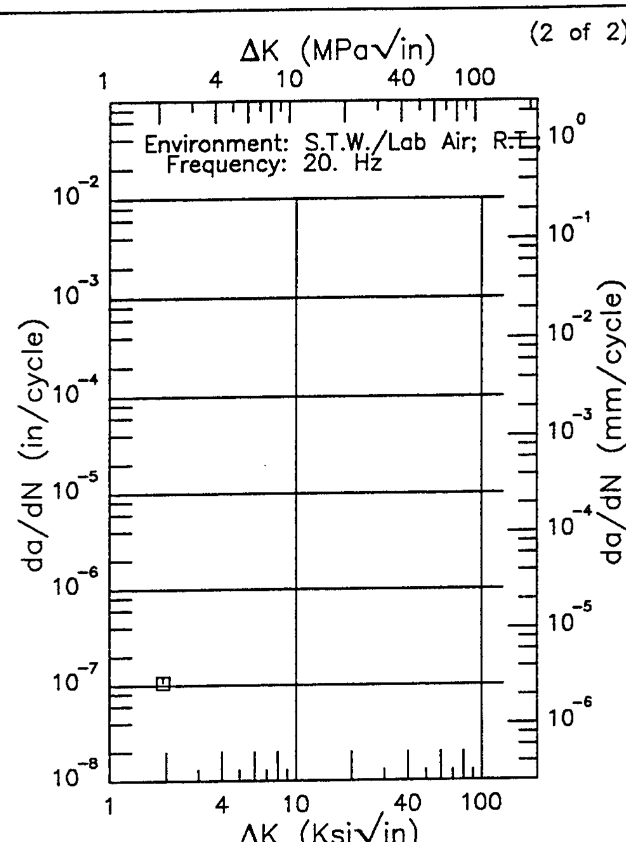
Figure 8.7.3.1.113 (Concluded)

EF ⊣ 7050 ⊢

Condition/Ht: T76511
Form: 1.5 in. Extrusion
Specimen Type: CT
Orientation: L−T
Stress Ratio: 0.4

Yield Strength: 77 ksi
Ult. Strength:
Specimen Thk: 0.252 in.
Specimen Width: 2.005 in.
Ref: DA005





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.18 (min)	0.987
5.	2.83
6.	5.89
7.	9.20
8.	12.8
9.	16.9
10.	21.6
13.	38.6
16.	62.9
19.43 (max)	110.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
6.68	0. .5 .8 1.25 2.

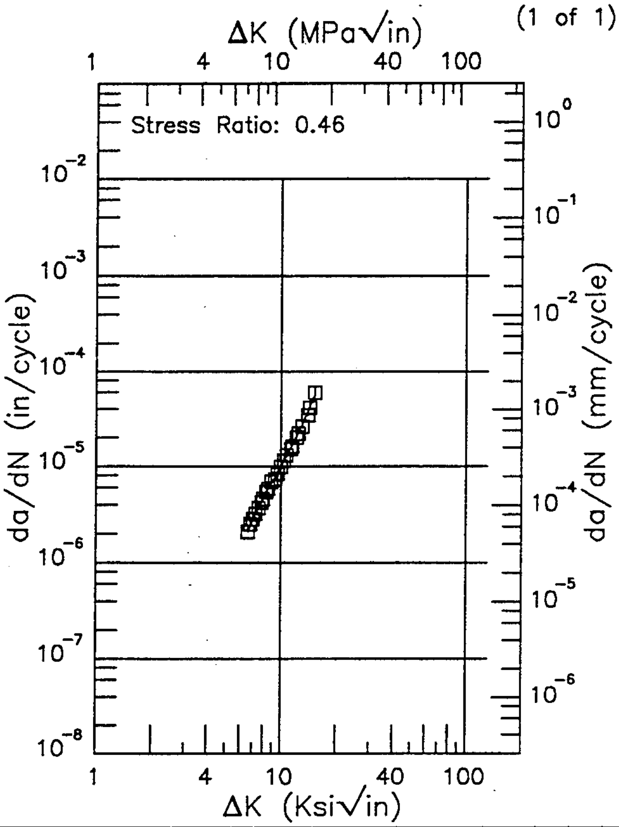
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

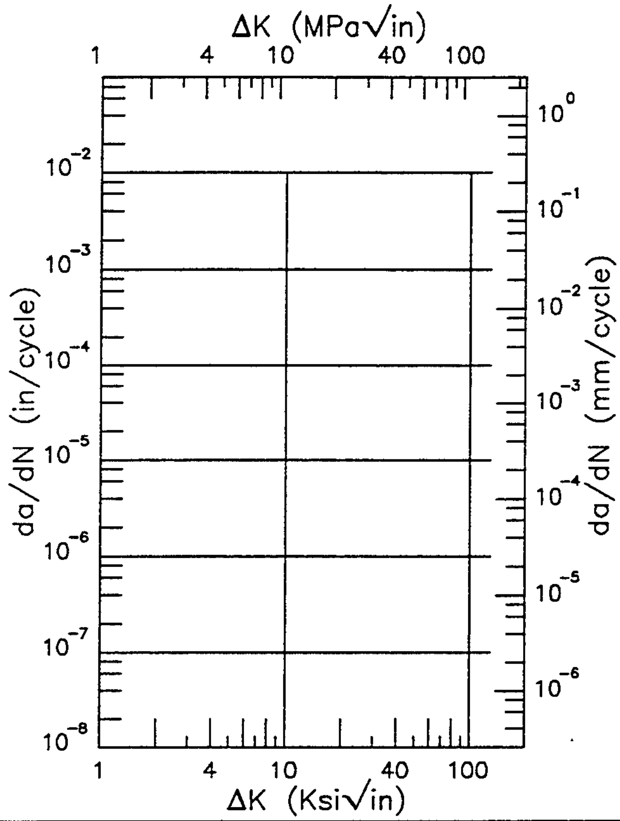
Figure 8.7.3.1.114

Condition/Ht: T76511
Form: 1.16 in. Extrusion
Specimen Type: CT
Orientation: L–T
Frequency: 18.3 Hz
Environment: L.H.A.; RT

Yield Strength: 76.4 ksi
Ult. Strength: 83.6 ksi
Specimen Thk: 1.007 in.
Specimen Width: 3.1 in.
Ref: AL004

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
6.63 (min)	2.12
7.	2.71
8.	4.63
9.	6.98
10.	9.90
13.	26.1
15.21 (max)	56.7

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error	Life Prediction Ratio Summary
2.79	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.7.3.1.115

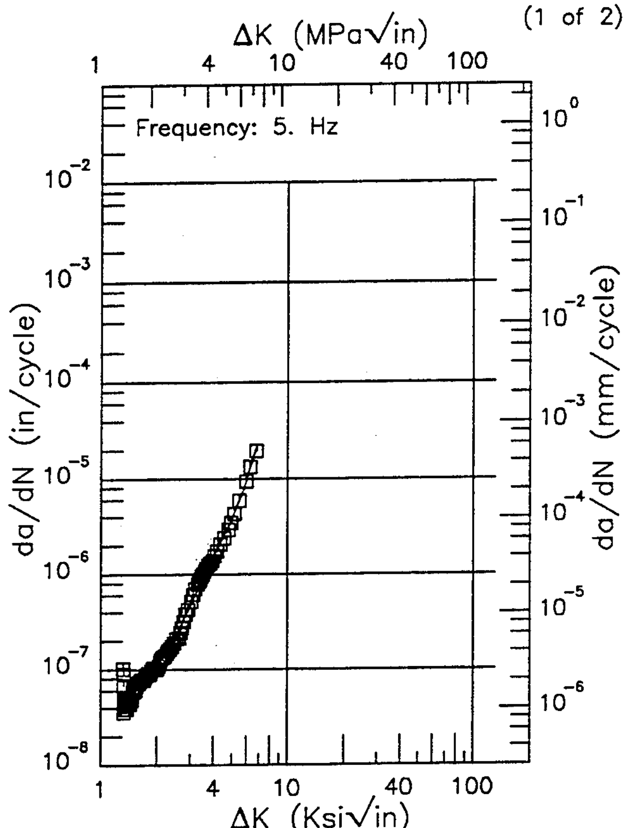
7050

F

Condition/Ht: T76511
Form: 0.75 – 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.8
Environment: LAB AIR; RT

Yield Strength: 77 – 80.6 ksi
Ult. Strength: 87 ksi
Specimen Thk: 0.249 – 0.25 in.
Specimen Width: 2.002 – 2.003 in.
Ref: DA004;DA005

(1 of 2)



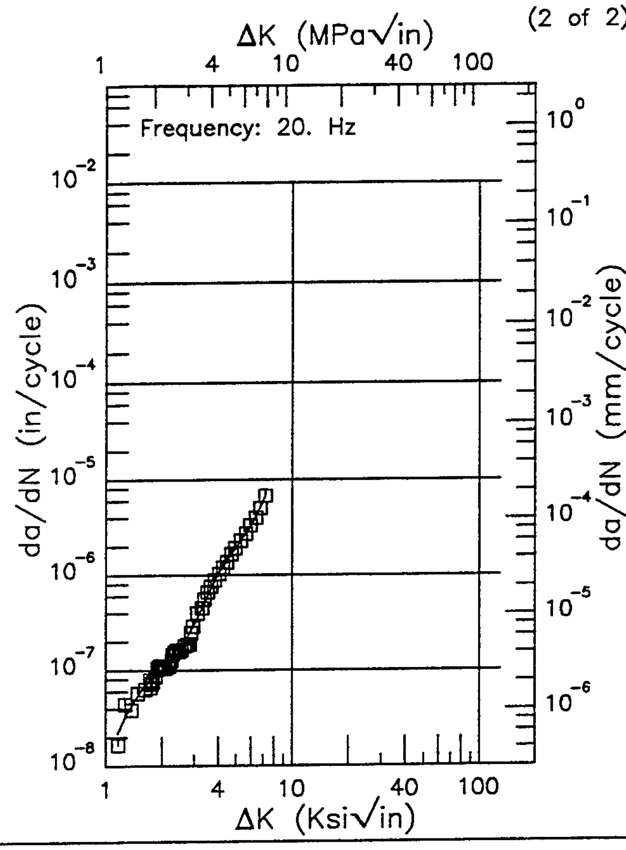
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.31 (min)	0.0510
1.6	0.0629
2.	0.107
2.5	0.227
3.	0.465
3.5	0.880
4.	1.52
5.	3.81
6.	9.58
6.76 (max)	21.0

RMS % Error 17.33

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.16 (min)	0.0220
1.3	0.0363
1.6	0.0667
2.	0.100
2.5	0.161
3.	0.305
3.5	0.596
4.	1.03
5.	1.93
6.	3.23
7.	5.92
7.17 (max)	6.60

RMS % Error 10.70

Life Prediction Ratio Summary

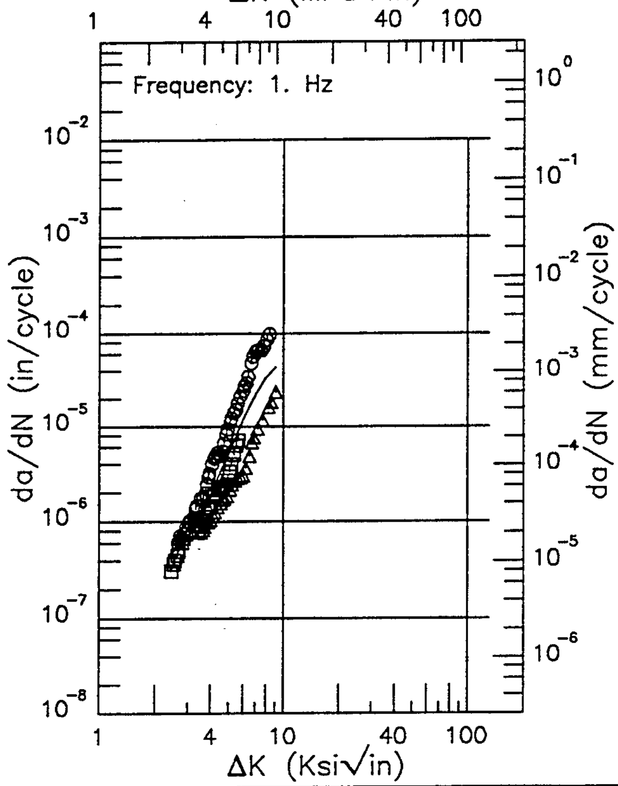
0. .5 .8 1.25 2.

Figure 8.7.3.1.116

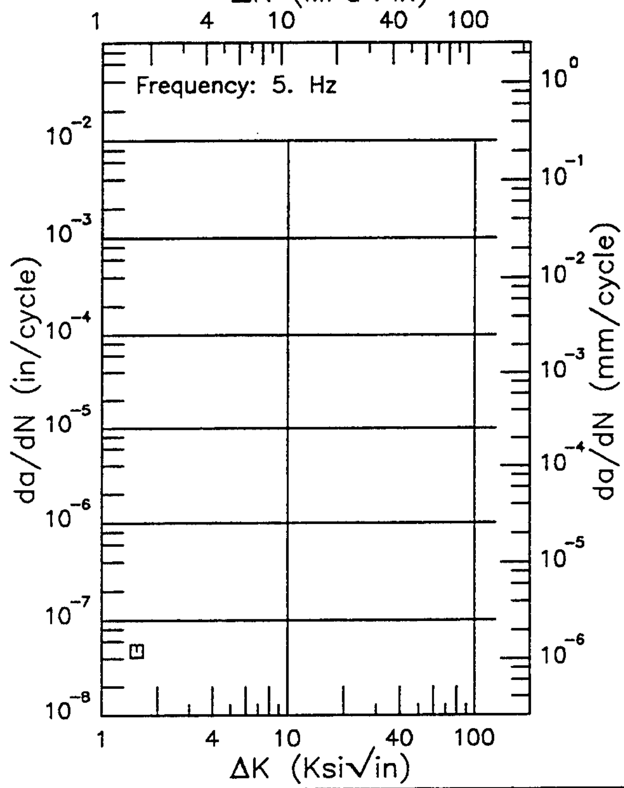
Condition/Ht: T76511
Form: 0.75 – 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.8
Environment: DIST WATER; RT

Yield Strength: 77 – 80.6 ksi
Ult. Strength: 87 ksi
Specimen Thk: 0.249 – 0.25 in.
Specimen Width: 2 – 2.004 in.
Ref: DA004;DA005

(1 of 2)



(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.43 (min)	0.480
2.5	0.490
3.	0.677
3.5	1.10
4.	1.88
5.	5.16
6.	11.8
7.	21.8
8.	33.4
9.	43.4
9.06 (max)	43.8

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
70.91	△ □ ○ — 0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.7.3.1.117

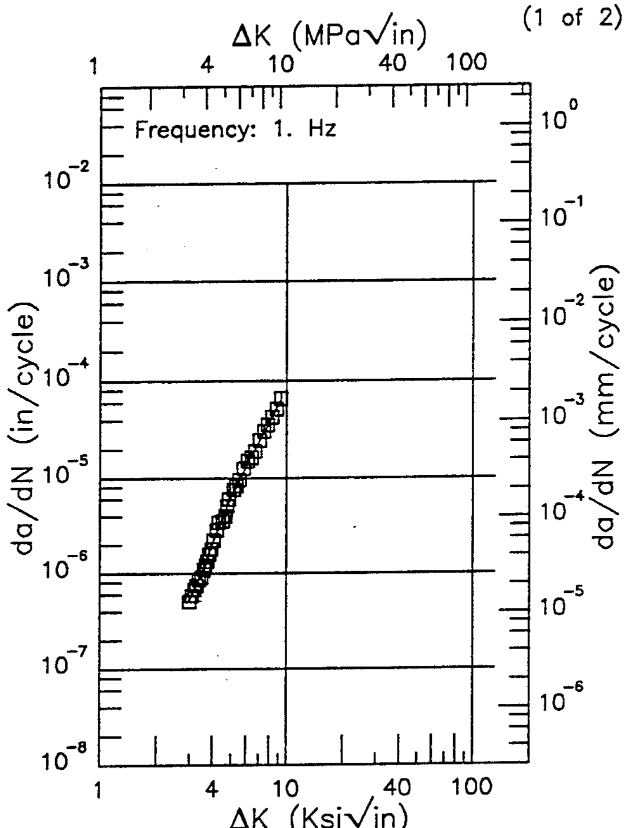
F

7050

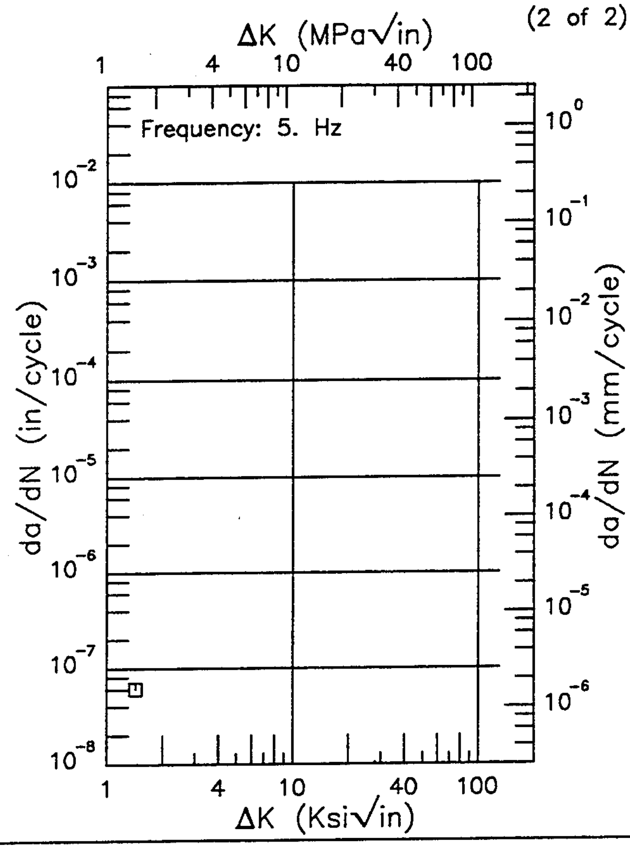
Condition/Ht: T76511
Form: 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.8
Environment: S.T.W.; RT

Yield Strength: 77 ksi
Ult. Strength:
Specimen Thk: 0.251 in.
Specimen Width: 2.003 in.
Ref: DA005

(1 of 2)



(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.98 (min)	0.524
3.	0.531
3.5	0.992
4.	2.04
5.	6.41
6.	13.2
7.	23.2
8.	37.5
9.	57.7
9.28 (max)	64.7

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
4.72

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

Figure 8.7.3.1.118

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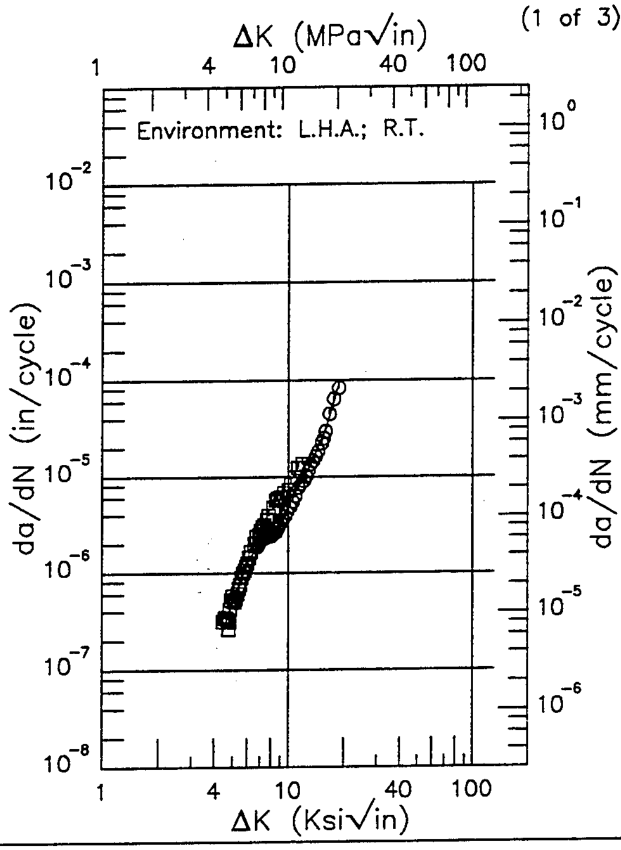
E

7050

Condition/Ht: T76511
Form: 1.16 in. Extrusion
Specimen Type: CT
Orientation: T–L
Stress Ratio: 0.33
Frequency: 18.3 Hz

Yield Strength: 74.4 ksi
Ult. Strength: 82.5 ksi
Specimen Thk: 0.999 – 1 in.
Specimen Width: 3.801 in.
Ref: AL004

(1 of 3)



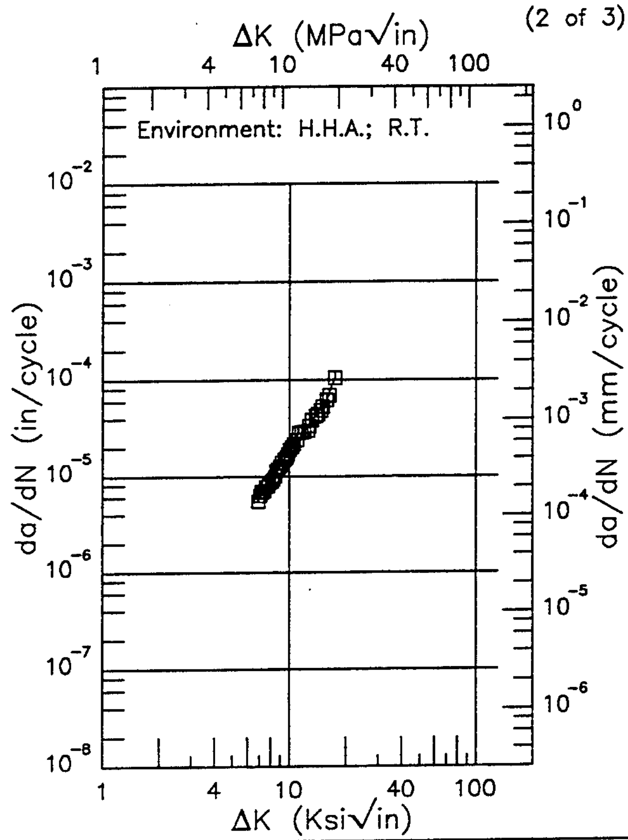
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.43 (min)	0.240
5.	0.516
6.	1.24
7.	2.14
8.	3.15
9.	4.29
10.	5.63
13.	12.6
16.	32.9
18.66 (max)	92.1

RMS % Error 22.28

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.84 (min)	6.00
7.	6.27
8.	8.87
9.	13.0
10.	18.4
13.	36.1
16.	65.4
17.37 (max)	103.

RMS % Error 4.20

Life Prediction Ratio Summary

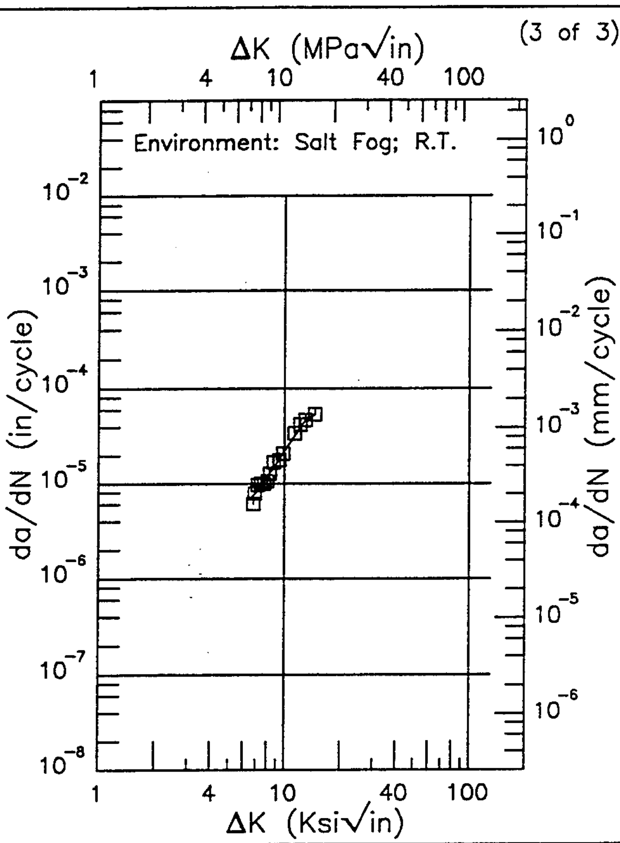
0. .5 .8 1.25 2.

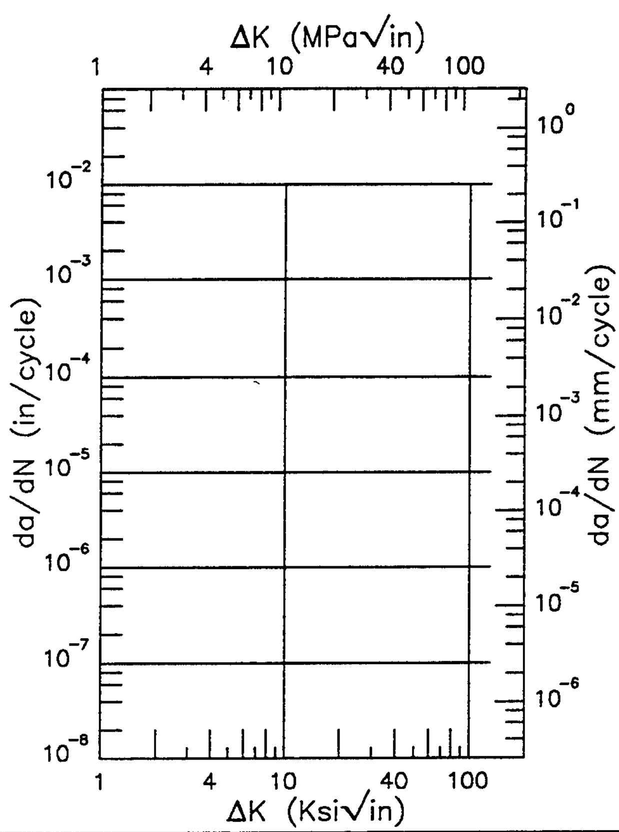
Figure 8.7.3.1.119

Condition/Ht: T76511
Form: 1.16 in. Extrusion
Specimen Type: CT
Orientation: T–L
Stress Ratio: 0.33
Frequency: 18.3 Hz

Yield Strength: 74.4 ksi
Ult. Strength: 82.5 ksi
Specimen Thk: 0.999 – 1 in.
Specimen Width: 3.801 in.
Ref: AL004

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.76 (min)	7.45
7.	8.11
8.	11.7
9.	16.4
10.	22.4
13.	47.5
14.47 (max)	53.8

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
8.08	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.7.3.1.119 (Concluded)

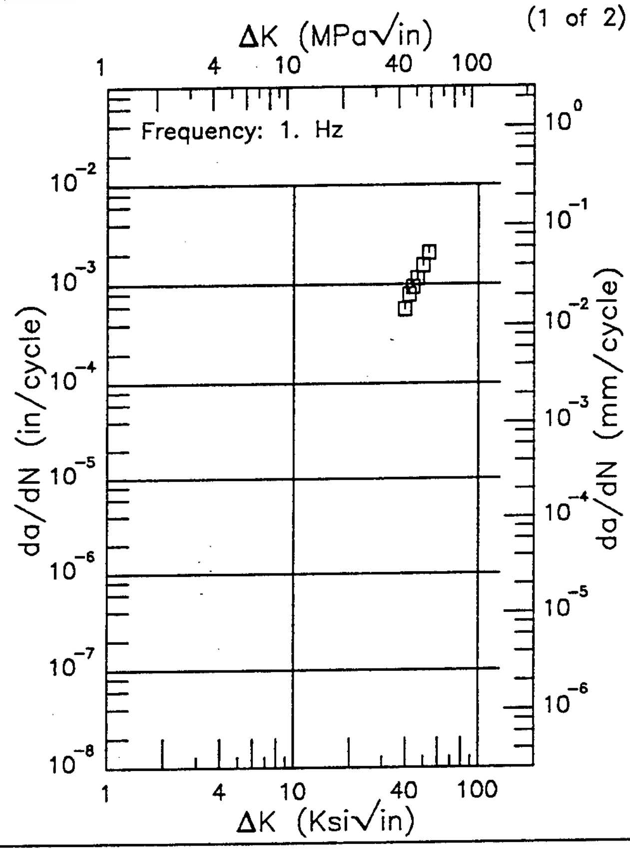
7050

F

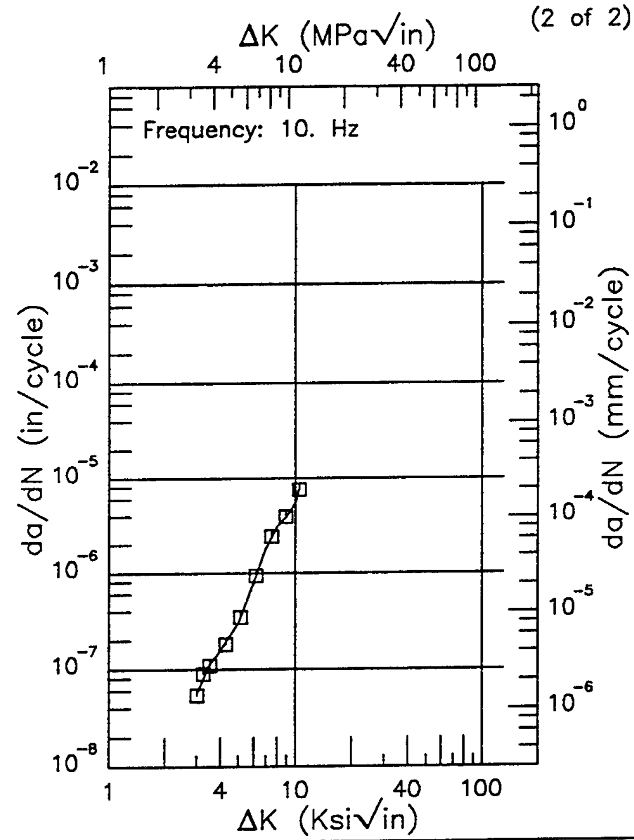
Condition/Ht: T76511
Form: 0.75 in. Extrusion
Specimen Type: CCP (max load specified)
Orientation: L–T
Stress Ratio: –1
Environment: LAB AIR; RT

Yield Strength: 80.6 ksi
Ult. Strength: 87 ksi
Specimen Thk: 0.199 in.
Specimen Width: 10.019 in.
Ref: DA004

(1 of 2)



(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.01 (min)	0.0565
3.5	0.111
4.	0.156
5.	0.303
6.	0.797
7.	1.83
8.	3.08
9.	3.93
10.	5.51
10.42 (max)	7.50

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

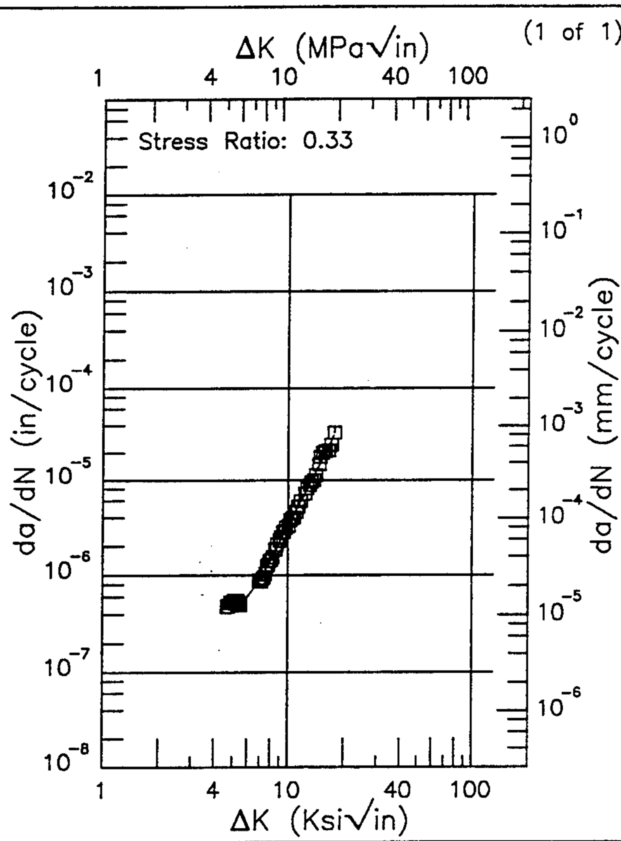
RMS % Error	Life Prediction Ratio Summary
5.07	0. .5 .8 1.25 2.

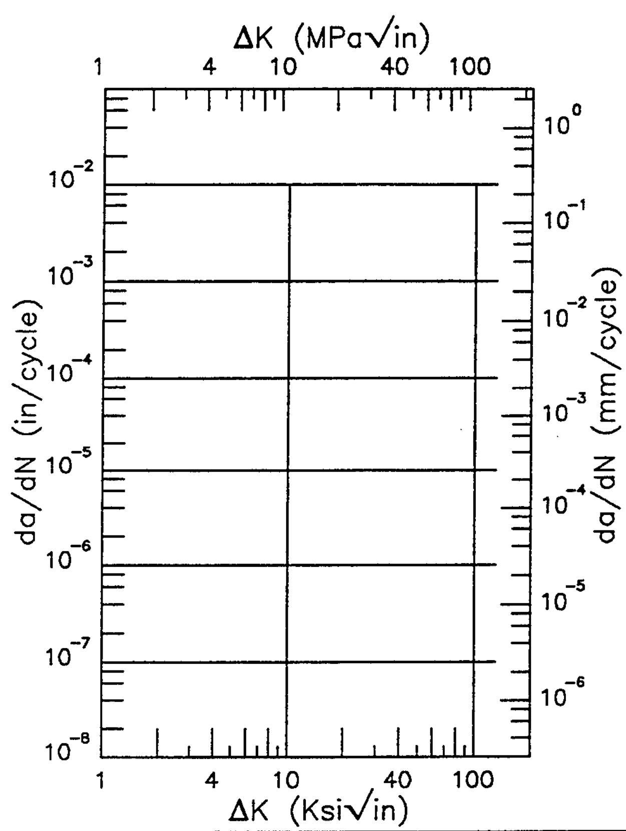
Figure 8.7.3.1.120

Condition/Ht: T7651X
Form: 0.91 in. Extrusion
Specimen Type: CT
Orientation: L–T
Frequency: 20 Hz
Environment: L.H.A.; RT

Yield Strength:
Ult. Strength:
Specimen Thk: 0.9 in.
Specimen Width: 3.1 in.
Ref: AL008

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.66 (min)	0.503
5.	0.493
6.	0.601
7.	0.886
8.	1.39
9.	2.18
10.	3.31
13.	9.01
16.	20.4
17.60 (max)	31.4

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
6.46	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

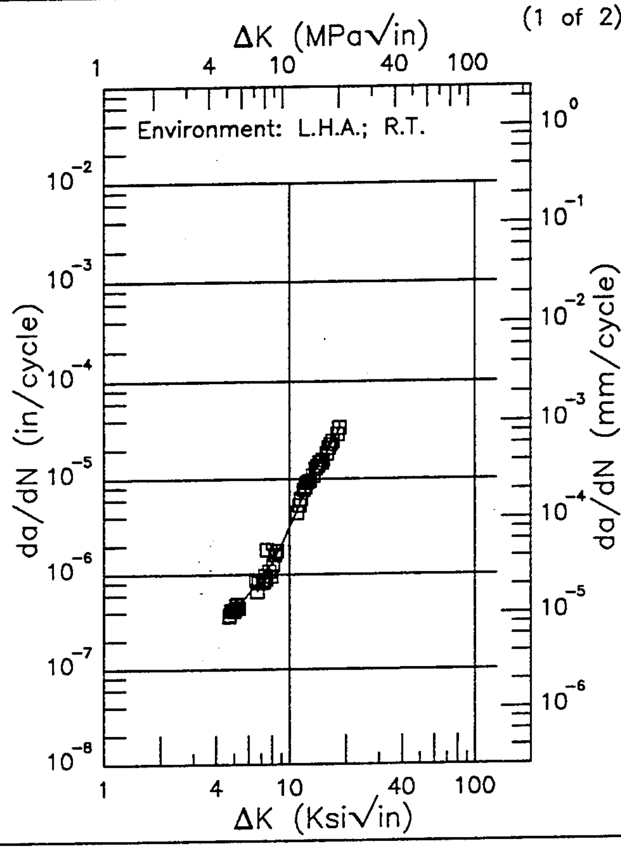
Figure 8.7.3.1.121

E 7050

Condition/Ht: T7651X
Form: 0.91 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.33
Frequency: 20 Hz

Yield Strength:
Ult. Strength:
Specimen Thk: 0.9 in.
Specimen Width: 3.805 in.
Ref: AL008

(1 of 2)



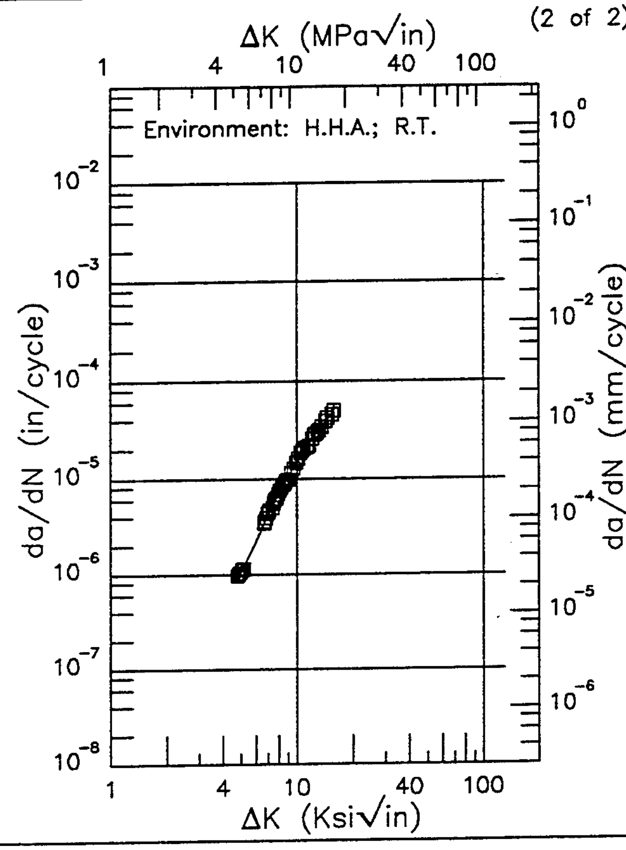
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.68 (min)	0.356
5.	0.417
6.	0.628
7.	0.911
8.	1.34
9.	2.02
10.	3.15
13.	10.2
16.	19.8
18.35 (max)	33.0

RMS % Error
13.12

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.78 (min)	0.906
5.	1.06
6.	2.21
7.	4.31
8.	7.24
9.	10.7
10.	14.8
13.	31.5
15.76 (max)	48.9

RMS % Error
3.74

Life Prediction Ratio Summary

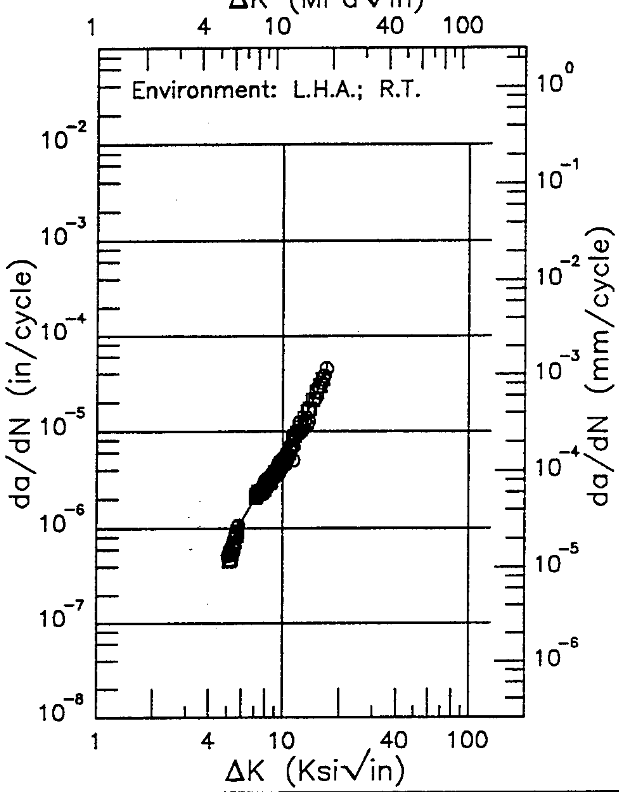
0. .5 .8 1.25 2.

Figure 8.7.3.1.122

Condition/Ht: T7651X
Form: 0.91 in. Extrusion
Specimen Type: CT
Orientation: T–L
Stress Ratio: 0.33
Frequency: 20 Hz

Yield Strength:
Ult. Strength:
Specimen Thk: 0.9 in.
Specimen Width: 3.805 in.
Ref: AL008

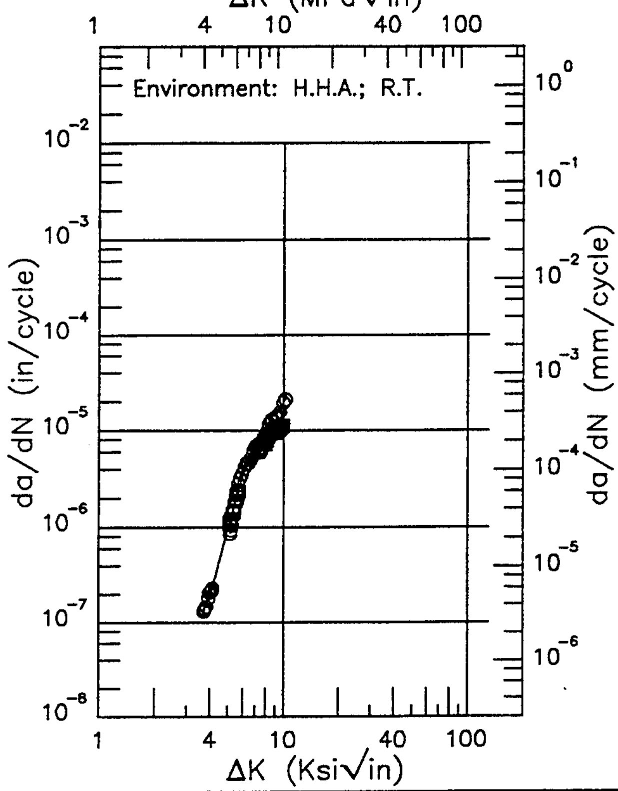
(1 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.04 (min)	0.475
6.	1.16
7.	1.98
8.	2.80
9.	3.71
10.	4.87
13.	12.7
16.	33.0
16.93 (max)	42.7

RMS % Error	Life Prediction Ratio Summary
8.77	0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.70 (min)	0.138
4.	0.192
5.	0.952
6.	3.40
7.	6.32
8.	8.48
9.	10.6
10.	15.8
10.17 (max)	17.4

RMS % Error	Life Prediction Ratio Summary
13.72	0. .5 .8 1.25 2.

Figure 8.7.3.1.123

TABLE 8.7.3.3

K_{Iscc} SUMMARY FOR ALUMINUM ALLOY 7050

Condition/ Heat Treat	Prod Form	Test Temp (°F)	Spec Or.	Yield Str (Ksi)	Envir.	Specimen			Prod Thk (in)	Crack (in)	K_Q (Ksi√in)	K_{Iscc} (Ksi√in)	Test Time (min)	Test Date	Reference
						Design	Width (in)	Thick (in)							
T736	F	R.T.	L-T	61.4	3.5% NaCl	DCB	---	---	0.25	---	31.1	28.2^{+}	---	1973	86212
			T-L	62.4	3.5% NaCl	DCB	---	---	0.25	---	28.1	24.5^{+}	---	1973	86212
T73651	P	R.T.	T-L	66	S.T.W.	DCB	5.5	1	4	---	43	28	133680	1976	RI006
						DCB	5.5	1	4	---	43	27.5	133680	1976	RI006
				67.2	3.5% NaCl	TDCB	5	1.25	4	---	30	29.1	---	1972	84362
					Dist Water	TDCB	5	1.25	4	---	30	29.1	---	1972	84362
T7651	P	R.T.	L-T	73.8	JP-4 Fuel	WOL*	3.085	1.248	1.25	1.09	---	>22.4	95040	1977	MA005
						WOL*	3.078	1.253	1.25	1.09	---	>22.6	95040	1977	MA005
					Sim. Sea Water	WOL*	3.082	1.249	1.25	1.13	---	>22	95040	1977	MA005
						WOL*	3.079	1.251	1.25	1.15	---	>21.9	95040	1977	MA005
			T-L	77	JP-4 Fuel	WOL*	3.087	1.252	1.25	1.16	---	>22.5	95040	1977	MA005
					Sim. Sea Water	WOL*	3.087	1.251	1.25	1.1	---	>22.3	95040	1977	MA005
						WOL*	3.086	1.252	1.25	1.09	---	>22.3	95040	1977	MA005

+ specimen thickness does not meet minimum requirements of $2.5\left(\frac{K_{Iscc}}{\sigma_{ys}}\right)^2$

* asterisk in specimen design column indicates that specimens are side-grooved

TABLE 8.8.1.2.1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 (ALCLAD) AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: H.H.A.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK *Level* ($Ksi\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T76	SHEET	0.33	13.3			13.9			

TABLE 8.8.1.2.2

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 (ALCLAD) AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: L.H.A.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK Level (*Ksi√in*)					
				2.5	5.0	10.0	20.0	50.0	100.0
T76	SHEET	0.33	13.3			8.39			

TABLE 8.8.1.2.3

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 (ALCLAD) AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: Salt Fog**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK *Level* (*Ksi√in*)					
				2.5	5.0	10.0	20.0	50.0	100.0
T76	SHEET	0.33	13.3			28.49			

TABLE 8.8.1.2.4

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 (ALCLAD) AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: H.H.A.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK *Level* (*Ksi*$\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T76	SHEET	0.	13.3			7.87			
		0.33	13.3		1.54	14.23			
		0.33	13.3			12.91			
		0.67	13.3		2.48	27.35			

TABLE 8.8.1.2.5

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7050 (ALCLAD) AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: L.H.A.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK Level (Ksi√in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T76	SHEET	0.	13.3			4.89			
		0.33	13.3			6.93			
		0.33	13.3			6.97			
		0.67	13.3		1.71	22.36			

TABLE 8.8.1.2.6

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 (ALCLAD) AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: Salt Fog**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK Level (Ksi√in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T76	SHEET	0.	13.3			11.61			
		0.33	13.3			23.39			
		0.33	13.3			19.52			
		0.67	13.3		4.94				

TABLE 8.8.2.2

ALUMINUM 7050 (ALCLAD) K_C																			
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K_{app}			K_C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) $2a_o$	FINAL (in.) $2a_f$	ONSET (Ksi) σ_o	MAX (Ksi) σ_{Max}	K_{app} (Ksi√in)	K_{app} MEAN	STAN DEV	K_C (Ksi√in)	K_C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES RESTRAINED																			
T76	Sheet	0.06	R.T.	L-T	67.2	8.130	0.062	2.670	4.090	---	37.50	82.50*	---	---	113.50*	---	---	1982	LG002
		0.06			67.2	8.130	0.062	2.670	3.920	---	37.40	82.20*			108.70*			1982	LG002
		0.06			67.2	8.130	0.063	2.670	3.960	---	37.90	83.40*			101.90*			1982	LG002
T76	Sheet	0.09	R.T.	L-T	66.9	8.120	0.087	2.700	3.860	---	35.10	77.60	76.4	1.1	100.80*	---	---	1982	LG002
		0.09			66.9	8.120	0.088	2.680	3.860	---	34.30	75.40			98.50*			1982	LG002
		0.09			66.9	8.120	0.088	2.660	4.020	---	34.80	76.30			103.70*			1982	LG002
T76	Sheet	0.06	R.T.	L-T	67.2	12.030	0.062	3.990	5.410	---	33.70	90.70	93.2	3.5	112.70*	---	---	1982	LG002
		0.06			67.2	12.050	0.062	4.030	5.640	---	35.30	95.70			122.10*			1982	LG002
T76	Sheet	0.09	R.T.	L-T	66.9	12.100	0.087	3.990	5.590	---	31.70	85.30	84.9	0.9	108.80*	---	---	1982	LG002
		0.09			66.9	12.110	0.088	4.030	6.090	---	31.60	85.60			116.80*			1982	LG002
		0.09			66.9	12.120	0.088	3.980	5.850	---	31.30	83.90			111.50*			1982	LG002
T76	Sheet	0.06	R.T.	L-T	67.2	20.020	0.062	6.650	8.070	---	27.40	95.00	96.3	1.8	108.70	114.1	7.6	1982	LG002
		0.06			67.2	20.070	0.063	6.560	8.730	---	28.40	97.60			119.40			1982	LG002
T76	Sheet	0.09	R.T.	L-T	66.9	20.140	0.088	6.600	10.030	---	28.80	99.50	102.6	4.4	136.00*	---	---	1982	LG002
		0.09			66.9	20.170	0.088	6.650	9.760	---	30.50	105.70			140.40*			1982	LG002

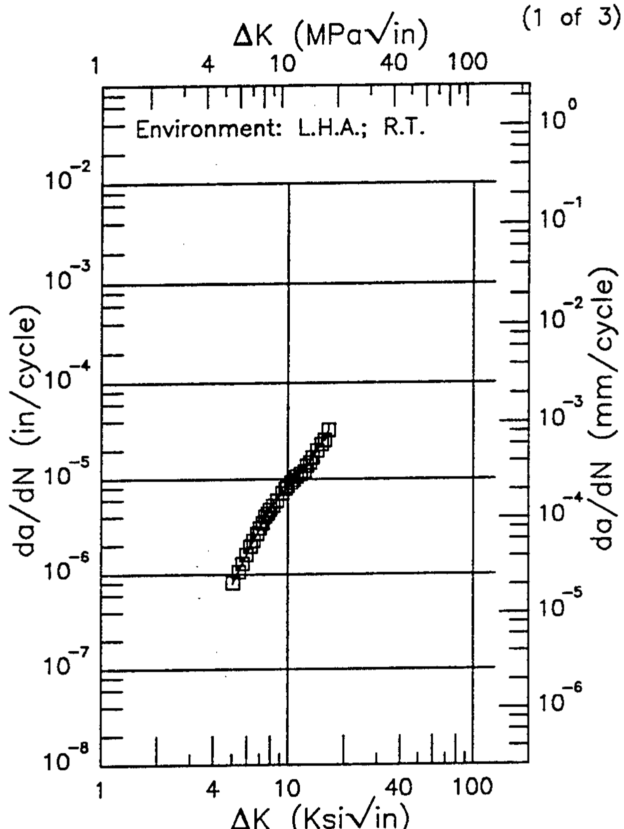
* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

E

7050 (ALCLAD)

Condition/Ht: T76	
Form: 0.13 in. Sheet	Yield Strength: 67.3 ksi
Specimen Type: CCP (max load specified)	Ult. Strength: 75.2 ksi
Orientation: L–T	Specimen Thk: 0.121 in.
Stress Ratio: 0.33	Specimen Width: 4.001 in.
Frequency: 13.3 Hz	Ref: AL012

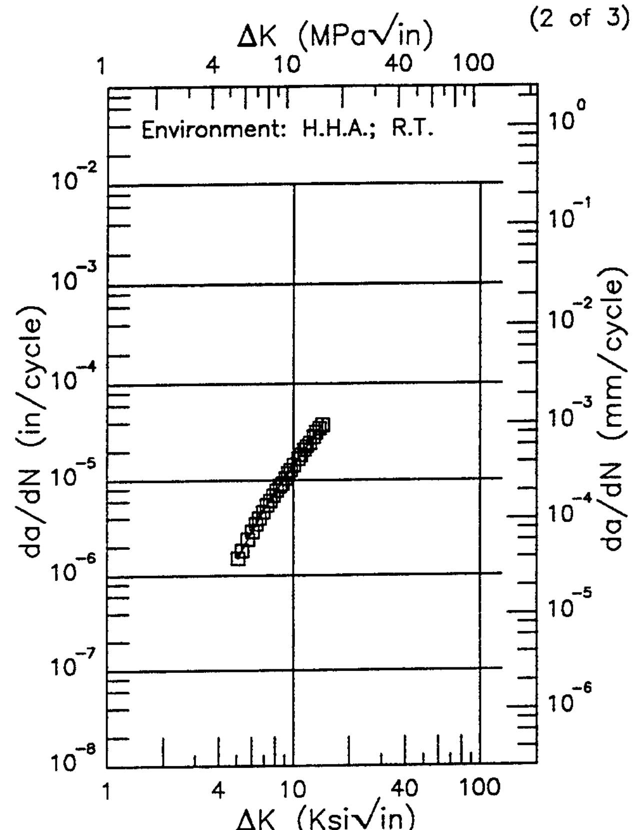
(1 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.07 (min)	0.792
6.	1.62
7.	3.00
8.	4.76
9.	6.58
10.	8.39
13.	14.7
16.	28.5
16.45 (max)	31.6

RMS % Error	Life Prediction Ratio Summary
2.37	0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.08 (min)	1.51
6.	2.85
7.	4.87
8.	7.33
9.	10.2
10.	13.9
13.	29.5
14.28 (max)	37.7

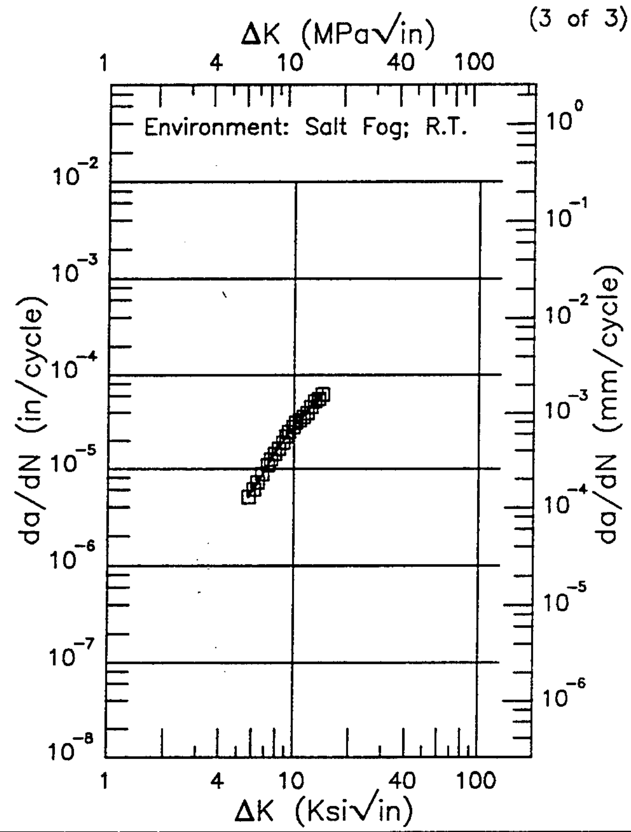
RMS % Error	Life Prediction Ratio Summary
1.25	0. .5 .8 1.25 2.

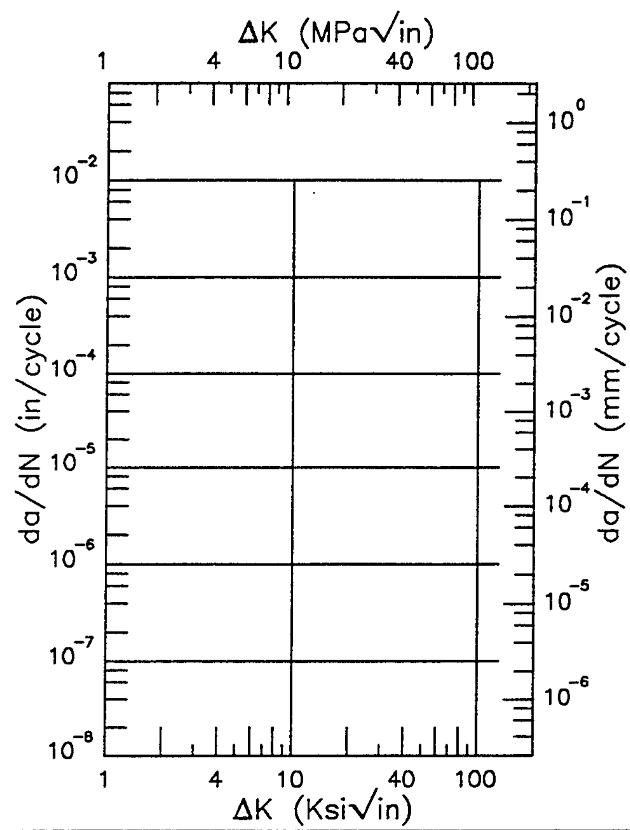
Figure 8.8.3.1.1

Condition/Ht: T76
Form: 0.13 in. Sheet
Specimen Type: CCP (max load specified)
Orientation: L–T
Stress Ratio: 0.33
Frequency: 13.3 Hz

Yield Strength: 67.3 ksi
Ult. Strength: 75.2 ksi
Specimen Thk: 0.121 in.
Specimen Width: 4.001 in.
Ref: AL012

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.70 (min)	5.03
6.	5.94
7.	9.91
8.	15.2
9.	21.6
10.	28.5
13.	51.1
14.10 (max)	63.3

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
2.06	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.8.3.1.1 (Concluded)

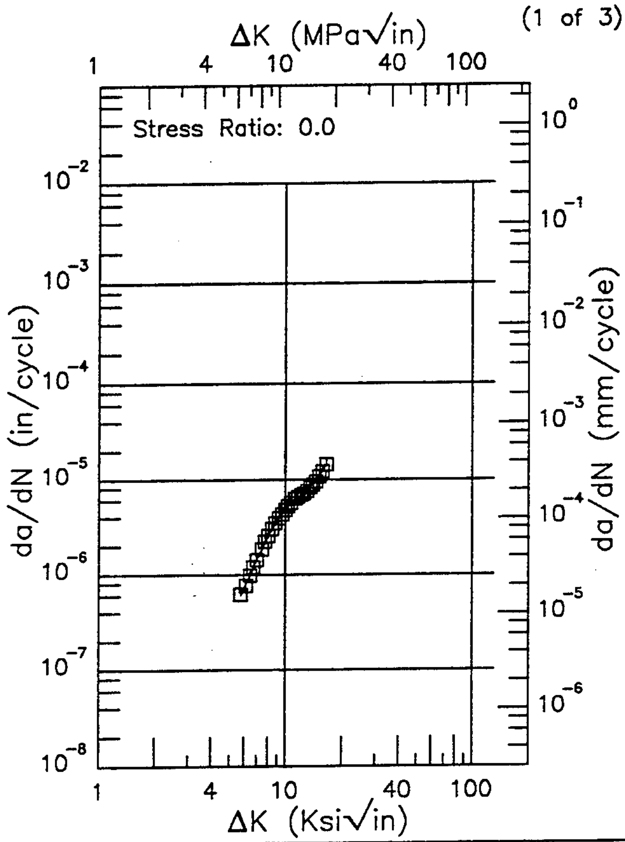
R

7050 (ALCLAD)

Condition/Ht: T76
Form: 0.13 in. Sheet
Specimen Type: CCP (max load specified)
Orientation: T–L
Frequency: 13.3 Hz
Environment: L.H.A.; RT

Yield Strength: 67.7 ksi
Ult. Strength: 76.2 ksi
Specimen Thk: 0.121 – 0.122 in.
Specimen Width: 4.001 – 4.002 in.
Ref: AL012

(1 of 3)



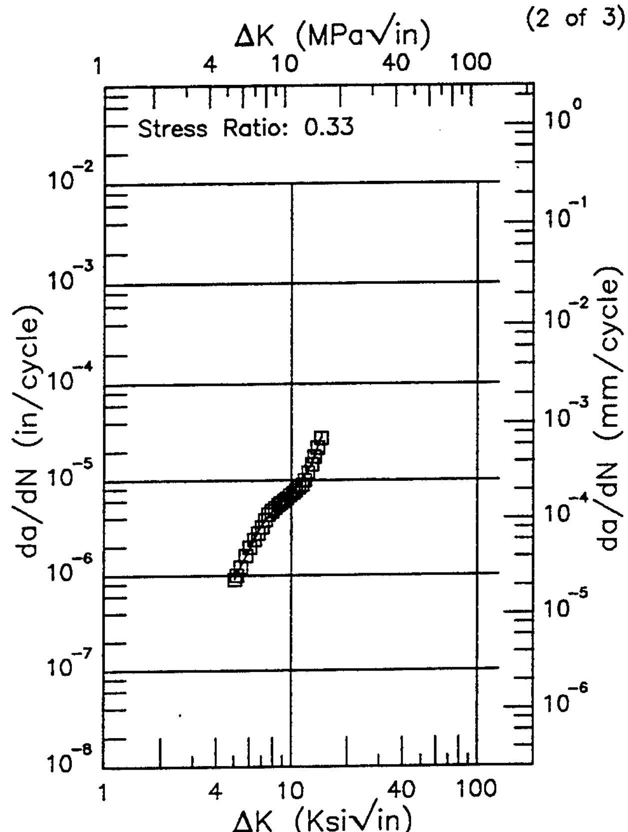
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.75 (min)	0.599
6.	0.718
7.	1.42
8.	2.47
9.	3.70
10.	4.89
13.	7.59
16.	13.0
16.45 (max)	14.4

RMS % Error
2.77

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.02 (min)	0.908
6.	1.86
7.	3.30
8.	4.82
9.	5.94
10.	6.93
13.	15.4
14.38 (max)	28.0

RMS % Error
4.79

Life Prediction Ratio Summary

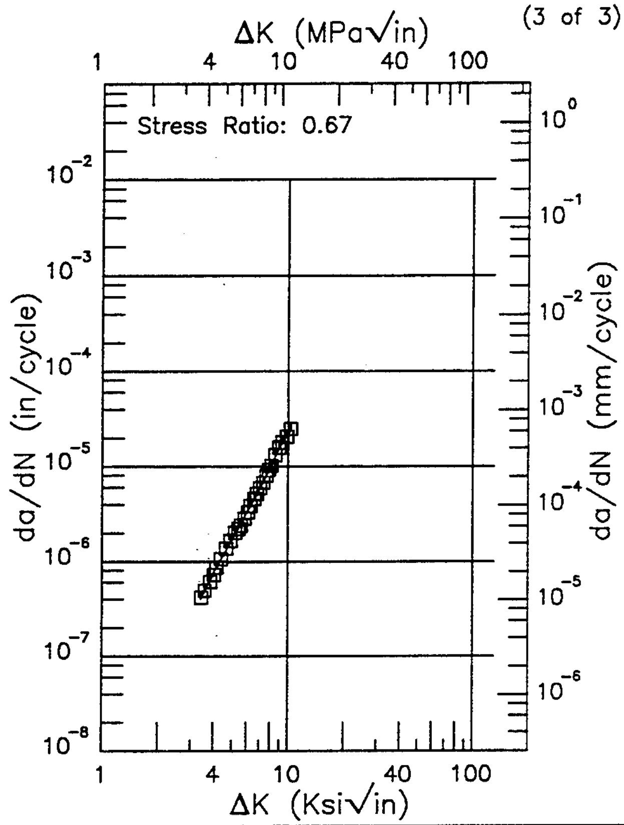
0. .5 .8 1.25 2.

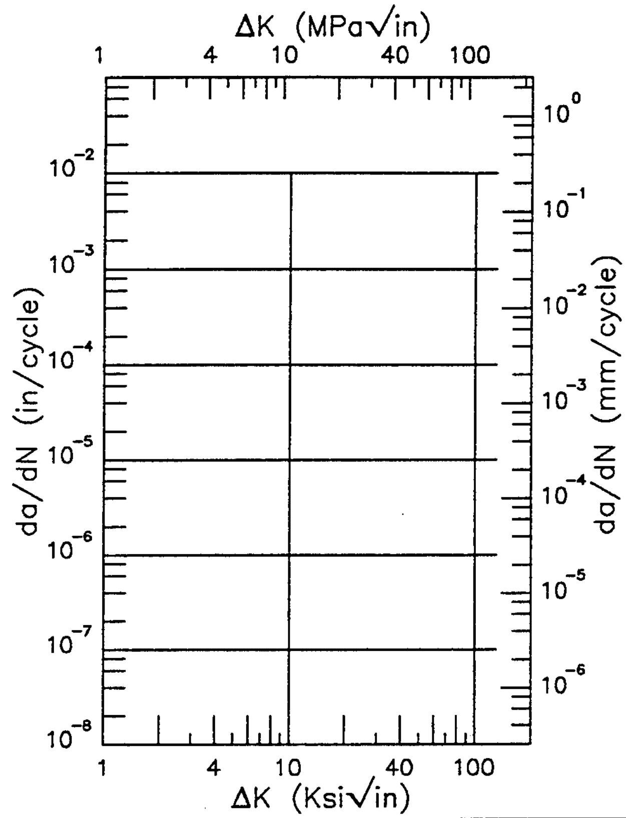
Figure 8.8.3.1.2

Condition/Ht: T76
Form: 0.13 in. Sheet
Specimen Type: CCP (max load specified)
Orientation: T-L
Frequency: 13.3 Hz
Environment: L.H.A.; RT

Yield Strength: 67.7 ksi
Ult. Strength: 76.2 ksi
Specimen Thk: 0.121 - 0.122 in.
Specimen Width: 4.001 - 4.002 in.
Ref: AL012

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.41 (min)	0.398
3.5	0.444
4.	0.758
5.	1.71
6.	3.26
7.	5.75
8.	9.82
9.	16.0
10.	22.4
10.22 (max)	23.4

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
3.26

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

Figure 8.8.3.1.2 (Concluded)

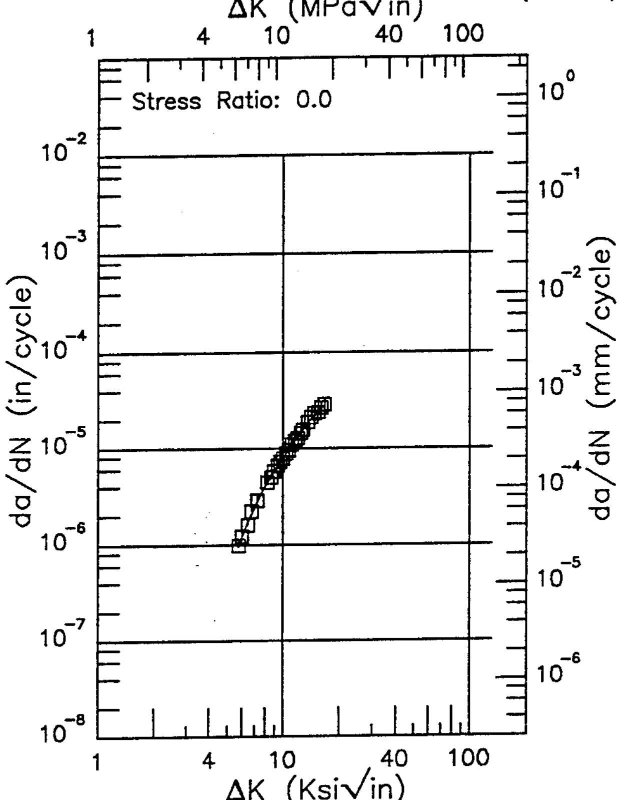
R

7050 (ALCLAD)

Condition/Ht: T76
Form: 0.13 in. Sheet
Specimen Type: CCP (max load specified)
Orientation: T–L
Frequency: 13.3 Hz
Environment: H.H.A.; RT

Yield Strength: 67.7 ksi
Ult. Strength: 76.2 ksi
Specimen Thk: 0.121 – 0.122 in.
Specimen Width: 3.999 – 4.001 in.
Ref: AL012

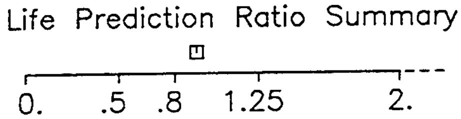
(1 of 3)



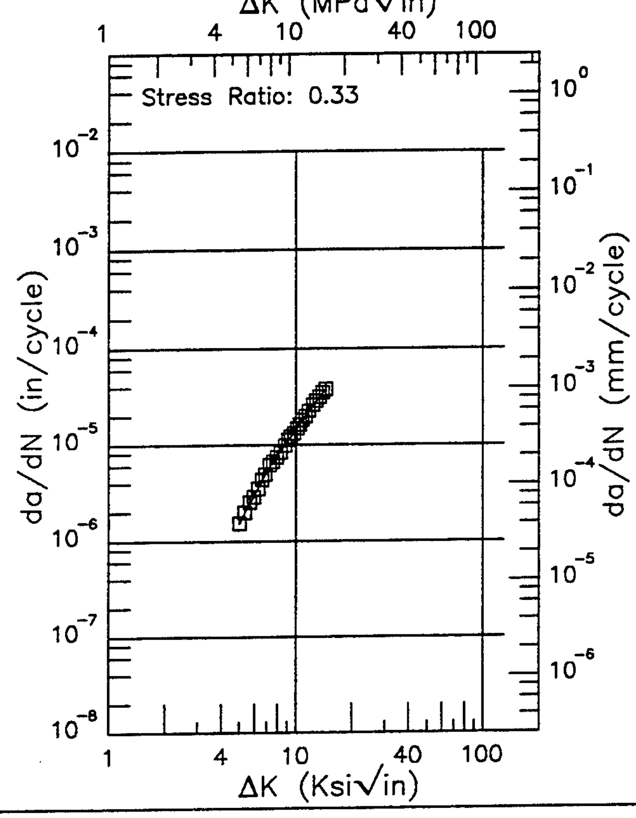
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.77 (min)	0.958
6.	1.18
7.	2.43
8.	4.03
9.	5.85
10.	7.87
13.	16.8
16.	26.5
16.53 (max)	28.1

RMS % Error
2.57

Life Prediction Ratio Summary



(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.99 (min)	1.53
5.	1.54
6.	3.03
7.	5.22
8.	7.78
9.	10.7
10.	14.2
13.	29.5
14.43 (max)	37.5

RMS % Error
1.91

Life Prediction Ratio Summary

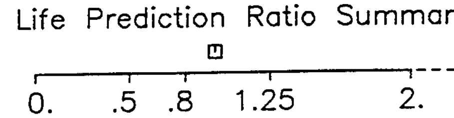
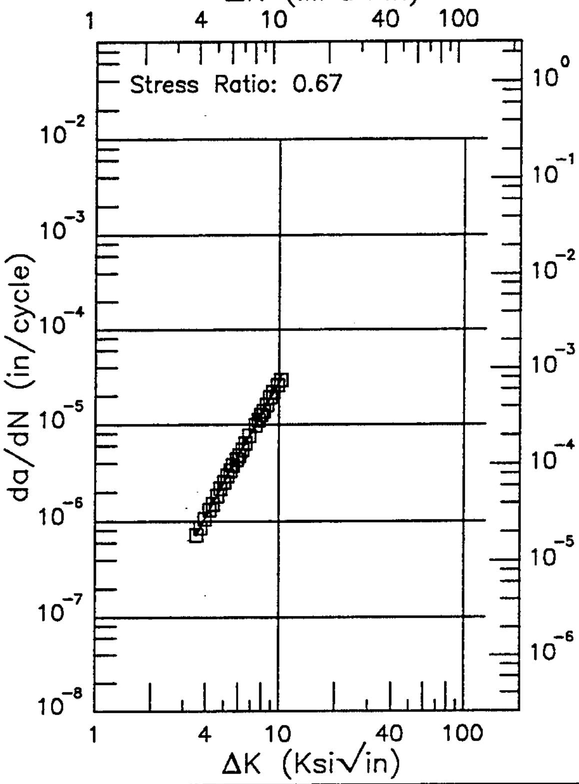


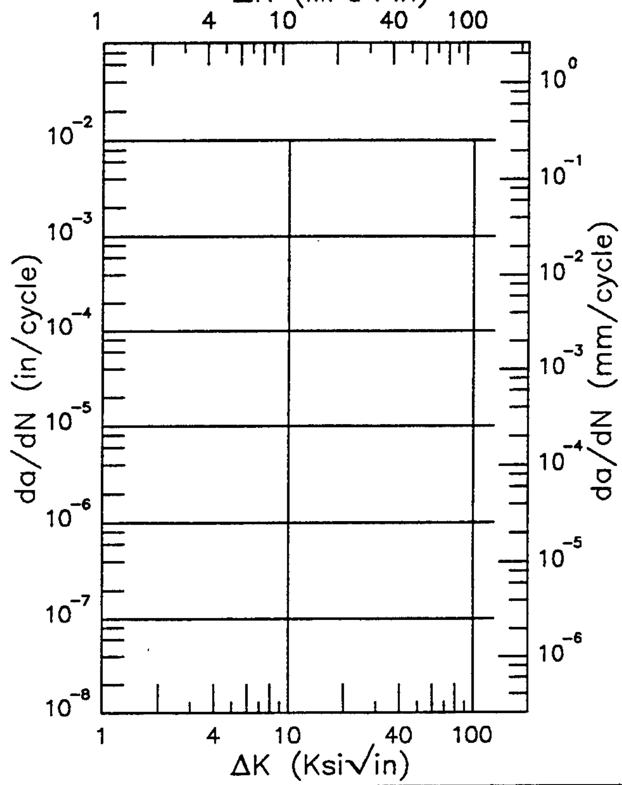
Figure 8.8.3.1.3

Condition/Ht: T76
Form: 0.13 in. Sheet
Specimen Type: CCP (max load specified)
Orientation: T-L
Frequency: 13.3 Hz
Environment: H.H.A.; RT

Yield Strength: 67.7 ksi
Ult. Strength: 76.2 ksi
Specimen Thk: 0.121 – 0.122 in.
Specimen Width: 3.999 – 4.001 in.
Ref: AL012

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.56 (min)	0.719
4.	1.10
5.	2.48
6.	4.70
7.	7.95
8.	12.7
9.	19.4
10.	27.3
10.18 (max)	28.6

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
1.29	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.8.3.1.3 (Concluded)

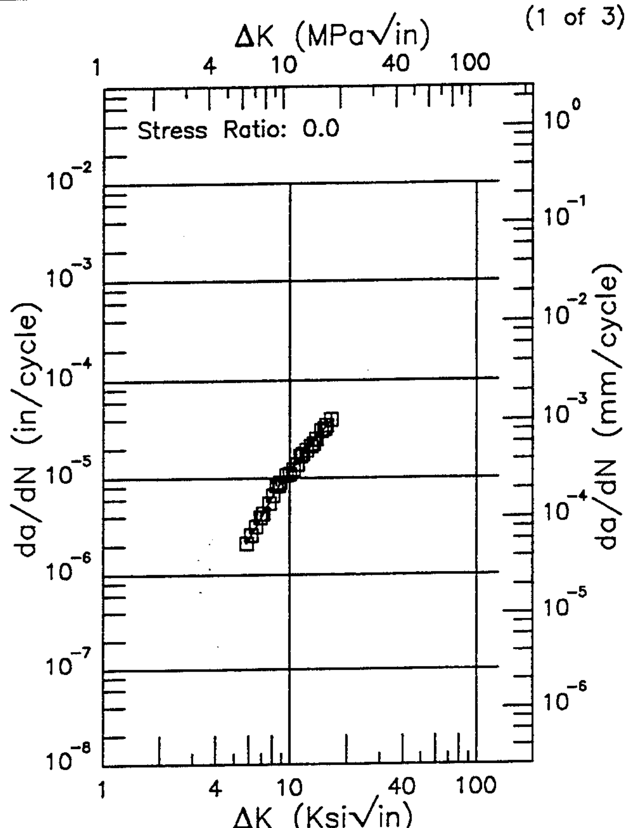
7050 (ALCLAD)

R

Condition/Ht: T76
Form: 0.13 in. Sheet
Specimen Type: CCP (max load specified)
Orientation: T–L
Frequency: 13.3 Hz
Environment: SALT FOG; RT

Yield Strength: 67.7 ksi
Ult. Strength: 76.2 ksi
Specimen Thk: 0.121 in.
Specimen Width: 4.001 in.
Ref: AL012

(1 of 3)



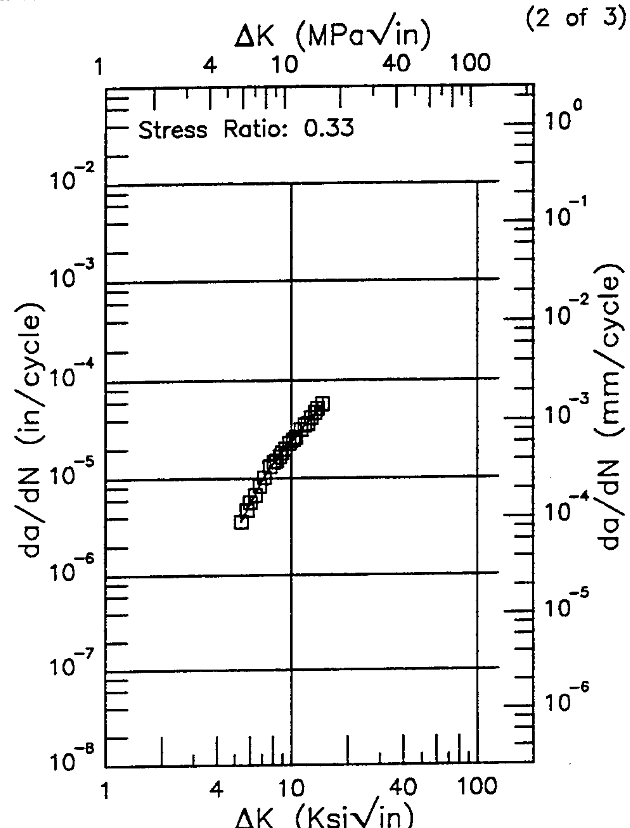
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.81 (min)	2.11
6.	2.32
7.	3.95
8.	6.38
9.	9.05
10.	11.6
13.	22.0
16.	36.7
16.50 (max)	39.3

RMS % Error 3.83

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.39 (min)	3.56
6.	5.31
7.	9.33
8.	14.0
9.	18.6
10.	23.4
13.	43.7
14.62 (max)	57.1

RMS % Error 1.96

Life Prediction Ratio Summary

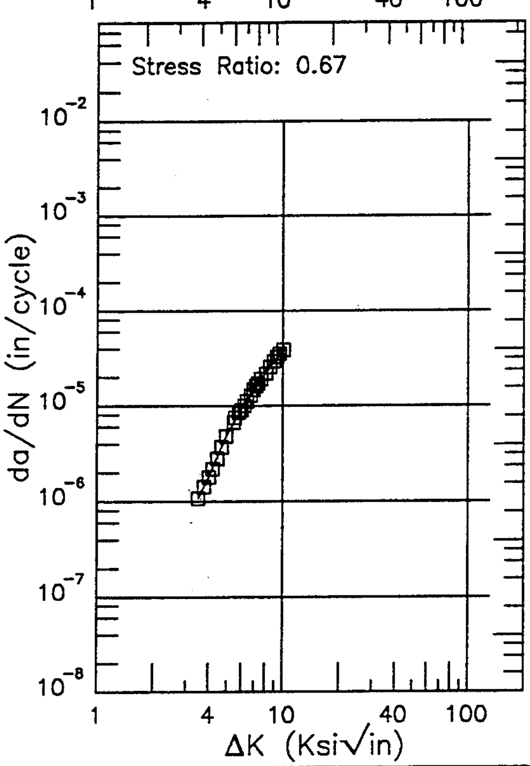
0. .5 .8 1.25 2.

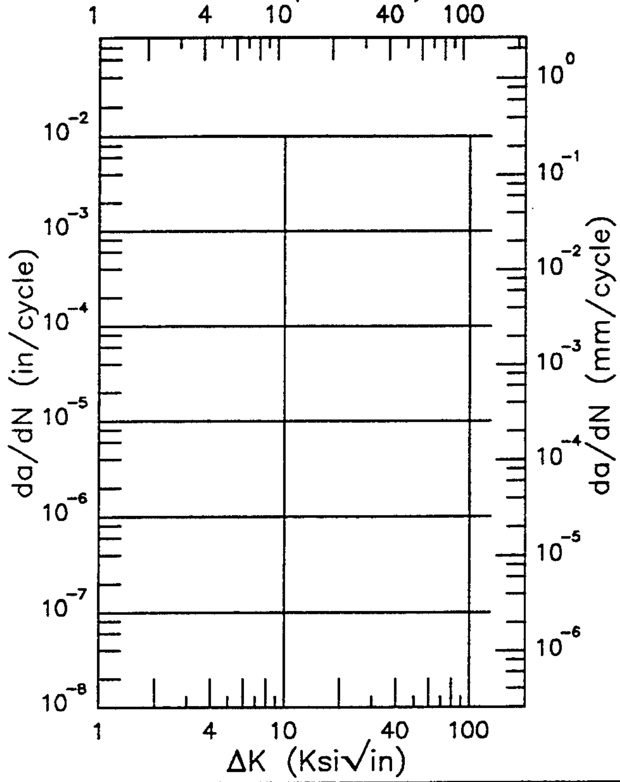
Figure 8.8.3.1.4

Condition/Ht: T76
Form: 0.13 in. Sheet
Specimen Type: CCP (max load specified)
Orientation: T–L
Frequency: 13.3 Hz
Environment: SALT FOG; RT

Yield Strength: 67.7 ksi
Ult. Strength: 76.2 ksi
Specimen Thk: 0.121 in.
Specimen Width: 4.001 in.
Ref: AL012

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.51 (min)	1.08
4.	1.78
5.	4.94
6.	9.29
7.	14.5
8.	21.5
9.	29.4
9.99 (max)	38.5

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
2.95	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.8.3.1.4 (Concluded)

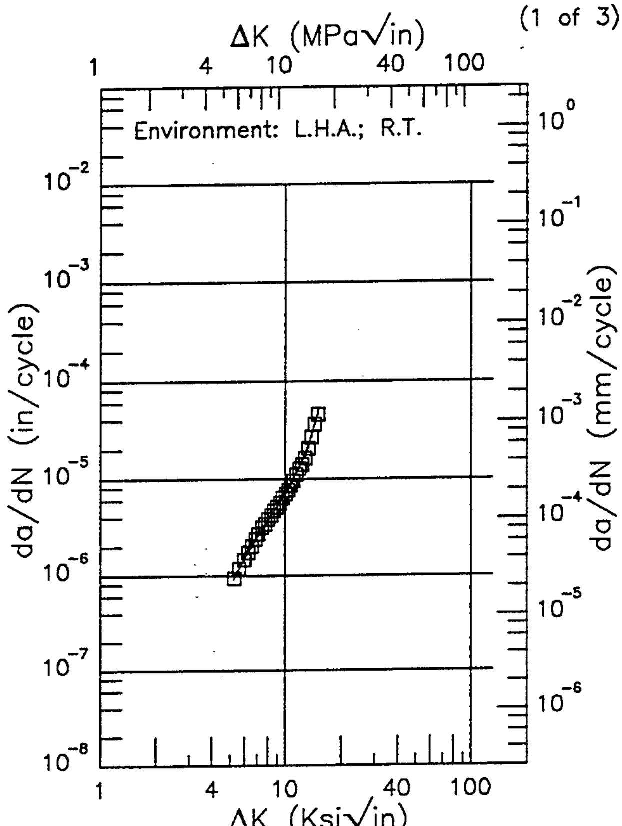
7050 (ALCLAD)

E

Condition/Ht: T76
Form: 0.03 in. Sheet
Specimen Type: CCP (max load specified)
Orientation: T–L
Stress Ratio: 0.33
Frequency: 13.3 Hz

Yield Strength: 65.1 ksi
Ult. Strength: 74.2 ksi
Specimen Thk: 0.024 in.
Specimen Width: 4 in.
Ref: AL012

(1 of 3)



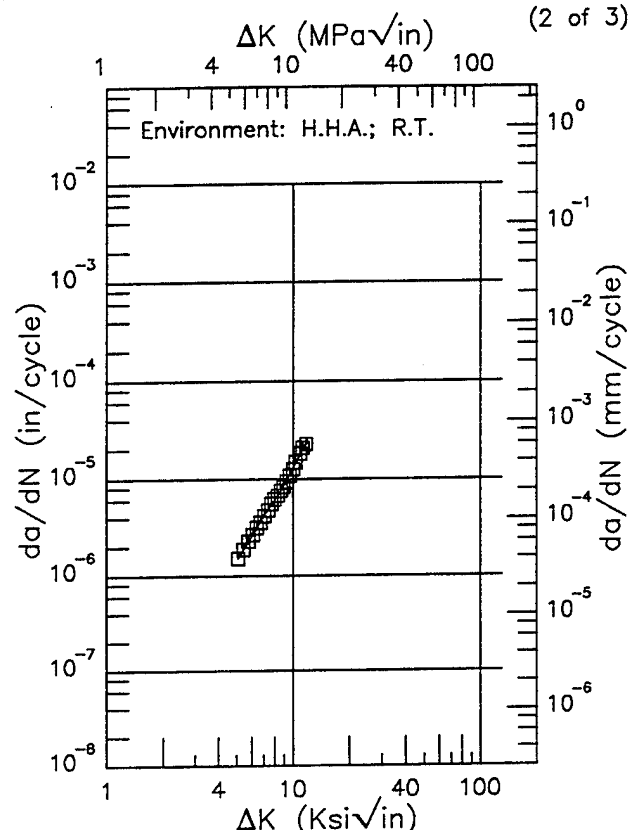
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.26 (min)	0.916
6.	1.50
7.	2.52
8.	3.78
9.	5.22
10.	6.97
13.	18.5
14.99 (max)	48.1

RMS % Error 3.29

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.07 (min)	1.52
6.	2.56
7.	4.17
8.	6.11
9.	8.70
10.	12.9
11.71 (max)	23.0

RMS % Error 2.16

Life Prediction Ratio Summary

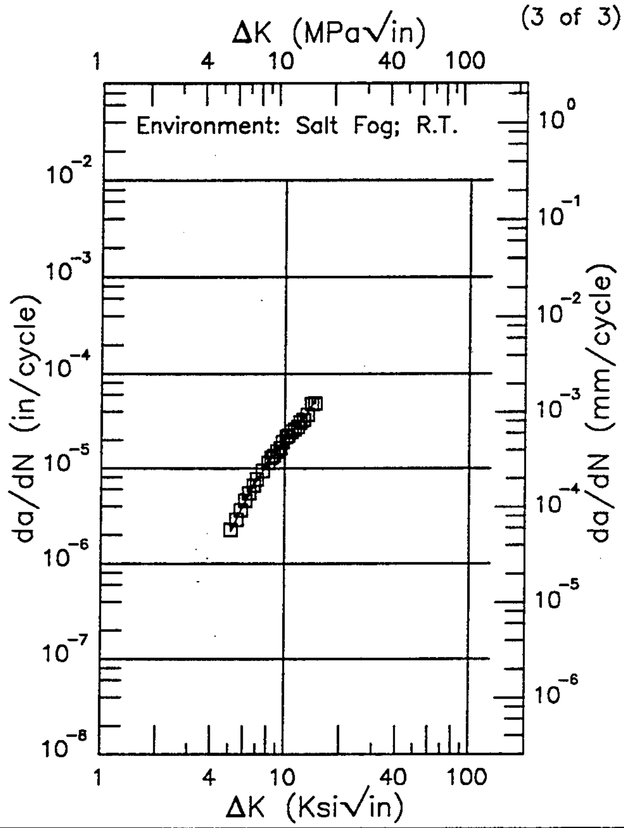
0. .5 .8 1.25 2.

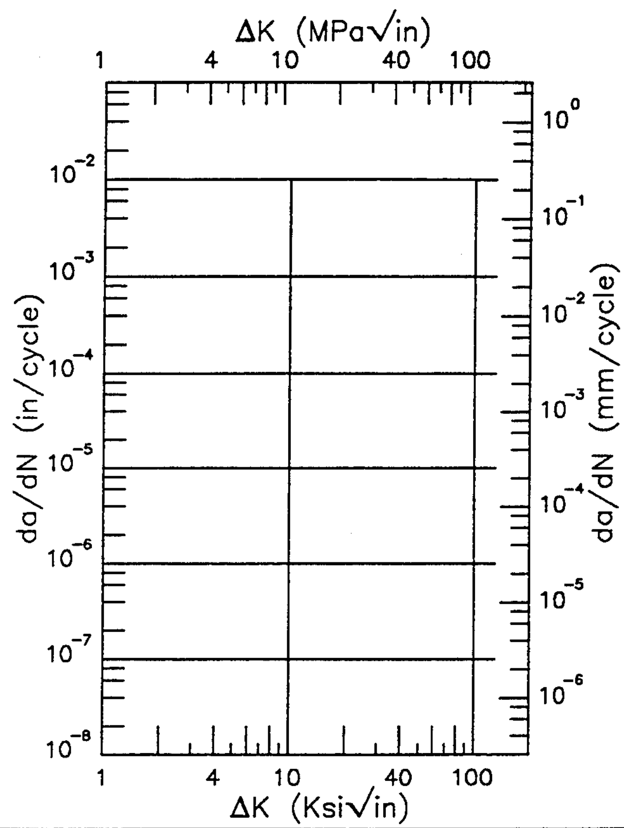
Figure 8.8.3.1.5

Condition/Ht: T76
Form: 0.03 in. Sheet
Specimen Type: CCP (max load specified)
Orientation: T–L
Stress Ratio: 0.33
Frequency: 13.3 Hz

Yield Strength: 65.1 ksi
Ult. Strength: 74.2 ksi
Specimen Thk: 0.024 in.
Specimen Width: 4 in.
Ref: AL012

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.11 (min)	2.19
6.	4.15
7.	7.31
8.	11.1
9.	15.1
10.	19.5
13.	35.8
14.44 (max)	51.6

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
2.86	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.8.3.1.5 (Concluded)

TABLE 8.9.1.1

MEAN PLANE STRAIN FRACTURE TOUGHNESS FOR ALUMINUM 7000/8000 SERIES ALLOY 7075 AT ROOM TEMPERATURE

Product Form	Condition/Heat Treatment	K_{Ic} $(ksi\sqrt{in})$ Specimen Orientation L-T Mean K_{Ic}	L-T Std Dev	L-T n	T-L Mean K_{Ic}	T-L Std Dev	T-L n	S-L Mean K_{Ic}	S-L Std Dev	S-L n
Plate	T651	26.5	2.	63	22.5	2.	75	17.6	2.7	11
	T7351	29.4	2.2	47	26.2	3.2	36	18.5	0.4	7
	T7651	28.5	1.5	25	23.1	2.	45	17.8	1.5	16
Forging	T6	24.3	0.1	2	20.9	1.7	2	16.8	0.4	4
	T73	---	---	---	---	---	---	19.1	0.5	4
	T7352	33.6	3.1	14	26.6	2.8	13	21.7	3.2	8
	T73652	35.	1.8	3	26.6	2.7	3	---	---	---
Extrusion	T6	---	---	---	19.9	0.2	3	18.5	0.2	3
	T651	31.1	0.5	4	20.2	0.2	5	---	---	---
	T6510	27.5	2.1	12	23.3	1.6	16	20.	1.3	3
	T6511	27.9	1.4	2	26.9	1.8	4	---	---	---
	T73510	---	---	---	24.6	2.3	9	20.3	0.8	2
	T73511	39.6	3.1	4	26.8	1.1	3	21.9	1.1	2
	T76511	35.7	4.4	6	23.6	2.8	4	---	---	---

TABLE 8.9.1.1 (CONCLUDED)

MEAN PLANE STRAIN FRACTURE TOUGHNESS FOR ALUMINUM 7000/8000 SERIES ALLOY 7075 AT ROOM TEMPERATURE

Product Form	Condition/Heat Treatment	K_{Ic} $(ksi\sqrt{in})$ Specimen Orientation L-T Mean K_{Ic}	L-T Std Dev	L-T n	T-L Mean K_{Ic}	T-L Std Dev	T-L n	S-L Mean K_{Ic}	S-L Std Dev	S-L n
Forged Bar	T6510	29.2	3.4	13	21.4	1.8	13	18.7	0.9	7
Extruded Bar	T73511-HIGH PURITY	43	1.7	2	30.	0.1	2	---	---	---
	T73511-LOW PURITY	27.3	0.2	2	21.7	1.7	2	---	---	---
	T73511-MEDIUM PURITY	30.6	0.2	2	21.9	0.3	2	---	---	---
Rolled Bar	T651	34.1	0.5	2	---	---	---	---	---	---

TABLE 8.9.1.2.1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: 3.5% NaCl**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) *ΔK Level* (*Ksi√in*)					
				2.5	5.0	10.0	20.0	50.0	100.0
T6	PLATE	-1	0.1			22.33	144.31		
		0.	0.1			24.02	160.69		
		0.	1			29.52	185.53		
		0.	10			22.11	106.98		
		0.5	0.1		5.97	42.83	546.58		
T651	PLATE	0.02	10			13.82	101.16		
T7351	PLATE	0.02	1				70.26		

TABLE 8.9.1.2.2

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: Distilled Water**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK Level ($Ksi\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T651	PLATE	0.02	10			10.11	47.9		
T7351	PLATE	0.02	0.1				46.29		
		0.02	1				37.67		

TABLE 8.9.1.2.3

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: Dry Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK *Level* (*Ksi√in*) 2.5	5.0	10.0	20.0	50.0	100.0
T651	PLATE	0.02	1				30.34		
T73	FORGED BAR	0.3	4			2.05	42.04		
		0.5	4			9.62	65.64		

TABLE 8.9.1.2.4

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: H.H.A.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle) ΔK Level (Ksi√in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T6	SHEET	0.	9			17.22			
		0.05	9		0.48	15.9			
		0.5	9	0.13					
		0.7	9		6.36	70.23			
T651	PLATE	0.33	13.3		1.45				
		0.33	20		1.01	23.98			
		0.33	25	0.05	4.19	28.69			
		0.8	25	0.42					
T6511	EXTRUSION	0.05	9			13.85	52.37		
		0.5	9		3.07	24.25	176.06		
T73	FORGED BAR	0.1	1			1.81	27.3		
		0.3	1				44.47		
		0.5	1			14.55			

TABLE 8.9.1.2.4 (CONCLUDED)

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: H.H.A.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK Level (Ksi√in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	0.1	12-30		0.73				
		0.1	12-30			10.14			
		0.25	19-30	0.09					
		0.33	25	0.1	0.98	12.83			
		0.33	25	0.08	1.4	12.78	90.85		
		0.33	200	0.1					
		0.5	12-30	0.17					
		0.5	12-30			13.33			
T73511-LOW PURITY	EXTRUSION	0.1	30			12.93			
T73511-MEDIUM PURITY	EXTRUSION	0.1	30			14.91			

TABLE 8.9.1.2.5

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: JP-4 Jet Fuel**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK *Level* ($Ksi\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	0.02	0.1-15			5.64	45.5		
		0.02	0.1-20		0.47	5.42	47.53		

TABLE 8.9.1.2.6

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: L.H.A.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) *ΔK Level* ($Ksi\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T6	PLATE	-1	10			5.48	89.09		
		0.	10			6.17	51.97		
		0.5	10		1.31	14.21	486.22		
T6510	EXTRUSION	0.33	5.2			16.83			
T7351	PLATE	0.08	1		0.42	7.03			
		0.08	6			6.86			
		0.08	6		0.32	6.85	69.32		
		0.3	6			7.53			
		0.5	6		1.56	13.69			
T73511	EXTRUSION	0.08	0.1			6.62			
		0.08	1		0.73	7.17			
		0.08	6			7.74	43.04		
		0.08	6			4.01	39.1		
		0.08	6			6.74	40.18		
		0.7	6	0.16	1.59	17.24			
T7352	FORGING	0.08	6			8.65			

TABLE 8.9.1.2.6 (CONCLUDED)

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: L.H.A.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} *in/cycle*) ΔK Level (Ksi√in) 2.5	5.0	10.0	20.0	50.0	100.0
T76	SHEET	0.08	1		0.58	5.83			
		0.08	6		0.62	5.87	43.84		
		0.3	6		0.8	10.11			
T7651	PLATE	0.08	1		0.89	8.31			
		0.08	1		0.36	10.01	52.3		
		0.08	6			5.63			
		0.08	6			5.18			
		0.3	6		0.54	10.82			
		0.3	6		0.99	7.64			
T76511	EXTRUSION	0.08	6		0.72	5.35			
		0.3	6		0.5	7.94	72.54		

TABLE 8.9.1.2.7

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: Lab Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK Level (Ksi√in) 2.5	5.0	10.0	20.0	50.0	100.0
T6	SHEET	0.02	1				99.02		
		0.02	3				91.73		
		0.02	10			13.95	60.44		
		0.02	0.1-30				54.22		
		0.02	0.1-30			11.34	49.45		
		0.02	0.1-30				75.47		
		0.5	1			36.66			
		0.5	3			45.43			
		0.5	10		6.02	30.42	298.62		
T651	PLATE	0.02	10			8.02	53.63		
		0.02	0.1-30				49.44		
		0.02	1-30		1.69	17.34	80.15		
		0.02	0.1-30				65.66		
		0.02	0.1-30				61.61		
		0.02	---		1.57	14.98	59.24		
		0.33	7.5			14.89			
		0.5	10		3.02	20.79	657.63		

TABLE 8.9.1.2.7 (CONTINUED)

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: Lab Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				Δ*K Level (Ksi√in)*					
				2.5	5.0	10.0	20.0	50.0	100.0
	UNSPECIFIED	-0.5	2-5	0.09	0.74				
		-0.1	2-5	0.05	0.72	7.7			
		0.1	2-5		0.4	3.04			
		0.5	2-5	0.1	0.68				
T6510	EXTRUSION	0.33	5.2			24.33			
	EXTRUDED BAR	0.33	5.2			17.11			
T6511	FORGING	0.1	40	0.09	1.18				
		0.5	30	0.19					
	EXTRUSION	-1	---		1.01	13.77			
		-0.5	---		0.76	14.84	53.88		
		0.01	---		0.99	13.04	68.19		
		0.4	5	0.15	2.76	29.07			
		0.6	---	0.19	3.72	35.58			
		0.8	3	0.41	6.36	119.9			

TABLE 8.9.1.2.7 (CONTINUED)

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: Lab Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK Level (Ksi√in) 2.5	5.0	10.0	20.0	50.0	100.0
T73	PLATE	-1	20		0.57	9.02			
		-0.5	20		0.55	8.53			
		0.05	20	0.06	0.58	11.43			
T7351	PLATE	-1	10			4.99	50.45		
		0.02	0.08			3.92	73.22		
		0.02	1			5.04	41.54		
		0.02	10			5.1	45.2		
		0.02	10			3.54	32.48		
		0.02	10			4.06	42.79		
		0.02	0.1-15			10.86	84.32		
		0.02	0.1-20		0.36	4.38	49.07		
		0.5	10		1.87	11.65	125.97		
T73510	EXTRUSION	0.33	5.2			12.72			
		0.33	5.2			12.23			
	EXTRUDED BAR	0.33	5.2			12.83	92.16		

TABLE 8.9.1.2.7 (CONCLUDED)

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: Lab Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) *ΔK Level* ($Ksi\sqrt{in}$) 2.5	5.0	10.0	20.0	50.0	100.0
T73511	EXTRUSION	0.1	10		0.7	11.04	55.56		
		0.1	20		0.84	9.82	58.35		
		0.5	20		2.14	12.88			
		0.5	20		2.22	15.09			
		0.5	25	0.13					
		0.8	20		2.25				
		0.8	30	0.27					
T73511-HIGH PURITY	EXTRUSION	0.1	30			6.41	37.29		
T73511-LOW PURITY	EXTRUSION	0.1	30			7.8			
T73511-MEDIUM PURITY	EXTRUSION	0.1	30			7.46			
T7352	FORGING	0.33	5.17			13.73			
	BILLET	0.02	1-30				32.78		
T74	HAND FORGING	0.8	20		2.53				
T74511	EXTRUSION	0.5	0.5		1.65	10.86			

TABLE 8.9.1.2.8

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: S.C.S.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK *Level* ($Ksi\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73511	EXTRUSION	0.08	1			9.43			
T7651	PLATE	0.08	1		1.2	9.4			

TABLE 8.9.1.2.9

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: S.S.W.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK *Level* ($Ksi\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	0.02	0.1-20		0.44	6.94	54.74		

TABLE 8.9.1.2.10

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: L-T **ENVIRONMENT: S.T.W.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK Level (Ksi√in) 2.5	5.0	10.0	20.0	50.0	100.0
T6511	EXTRUSION	0.8	1	0.46	19.1	101.56			
T73	FORGED BAR	0.1	1				27.97		
		0.5	1			17.38	170.93		
T7351	PLATE	0.08	6		0.47	9.33			
T73511	EXTRUSION	0.08	0.1		0.58	18.67			
		0.08	1		0.85	18.49			
		0.3	1			23.27			
		0.5	1	0.2	5.32	26.19			
T7651	PLATE	0.08	1		0.87	13.9			
		0.08	1		1.14	8.94			
		0.3	1		2.12	12.28			
		0.5	1		3	15			

TABLE 8.9.1.2.11

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: T-S **ENVIRONMENT: 3.5% NaCl**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK Level (Ksi√in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7352	FORGING	0.33	5.17			13.78			

TABLE 8.9.1.2.12

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE

ORIENTATION: T-S **ENVIRONMENT: H.H.A.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle) ΔK Level (Ksi√in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7352	FORGING	0.33	5.17			12.52			

TABLE 8.9.1.2.13

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: T-S **ENVIRONMENT: Lab Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK *Level* (*Ksi√in*)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7352	FORGING	0.33	5.17			9.75			

TABLE 8.9.1.2.14

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: 3.5% NaCl**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK Level (Ksi√in) 2.5	5.0	10.0	20.0	50.0	100.0
T651	PLATE	0.1	0.1			33.59			
		0.1	1			23.09			
		0.5	0.1			65.05			
		0.5	1		5.4				

TABLE 8.9.1.2.15

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: Alternate JP-4 & Distilled Water**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK *Level* (*Ksi*$\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T651	PLATE	0.1	1			12.5			
		0.5	1		2.89				

TABLE 8.9.1.2.16

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: Distilled Water**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK *Level* (*Ksi√in*) 2.5	5.0	10.0	20.0	50.0	100.0
T651	PLATE	0.1	0.1			11.42			
		0.1	1			18.81			
		0.5	0.1		3.21	38.95			
		0.5	1			34.77			

TABLE 8.9.1.2.17

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: Dry Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK Level (Ksi√in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T651	PLATE	0.1	1			9.98			
		0.5	0.1			37.72			
		0.5	1		2.1	37.66			
T73	FORGED BAR	0.1	4		0.3	5.3			
		0.3	4		0.16	8.85			
		0.5	4		1.27	31.73			

TABLE 8.9.1.2.18

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: H.H.A.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				Δ*K Level* (*Ksi*$\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73	FORGED BAR	0.3	1		0.52	11.49			
		0.5	1		1.26	18.05			

TABLE 8.9.1.2.19

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: L.H.A.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle) ΔK Level (Ksi√in) 2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	0.08	6			4.09			
		0.08	6		0.49				
T73511	EXTRUSION	0.08	6			5.95	66.66		
		0.08	6		0.63	4.72			
T76	SHEET	0.08	6			9.67	71.37		
T7651	PLATE	0.08	6			4.75			
		0.08	6			3.93			
T76511	EXTRUSION	0.08	6			4.42			

TABLE 8.9.1.2.20

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: Lab Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle) ΔK Level (Ksi√in) 2.5	5.0	10.0	20.0	50.0	100.0
T6	SHEET	0.	13.3			6.28	40.73		
		0.33	13.3			11.19	175.2		
T73510	EXTRUSION	0.33	5.2			14.15			
T73511-HIGH PURITY	EXTRUSION	0.1	30			4.47	34.47		
T73511-LOW PURITY	EXTRUSION	0.1	30			8.52			
T7352	PLATE	0.02			1.08	10.23			
		0.02			0.48	6.44	59.97		
	FORGING	0.02			1.88	14.09	132.86		
		0.02					27.53		
		0.33	5.17			11.37	65.53		

TABLE 8.9.1.2.21

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: Nitrogen Gas**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK Level (*Ksi√in*)					
				2.5	5.0	10.0	20.0	50.0	100.0
T651	PLATE	0.5	20		1.05				

TABLE 8.9.1.2.22

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: S.C.S.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK *Level* (*Ksi√in*)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73511	EXTRUSION	0.08	6			9.38			
T7651	PLATE	0.08	1		0.89	10.05			

TABLE 8.9.1.2.23

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: S.T.W.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK Level (Ksi√in) 2.5	5.0	10.0	20.0	50.0	100.0
T651	PLATE	0.	15		0.97				
		0.1	0.1			44.11			
		0.1	1			30.95			
		0.5	1		8.27	62.34			
T73	FORGED BAR	0.1	1		1.07	20.36			
		0.3	1		2.28	24.82			
		0.5	1		4.08	40.62			
T7351	PLATE	0.08	1			18.51			
T73511	EXTRUSION	0.08	1			19.77			
		0.08	1			14.78			

TABLE 8.9.1.2.24

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: Water Saturated JP-4 Jet Fuel**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*) ΔK *Level* (*Ksi√in*)					
				2.5	5.0	10.0	20.0	50.0	100.0
T651	PLATE	0.1	0.1			11.33	156.2		
		0.5	0.1		3.88	25.39			
		0.5	1		3.13	44.97			

TABLE 8.9.1.2.25

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: S-T **ENVIRONMENT: 3.5% NaCl**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				Δ*K Level* (*Ksi*√*in*)					
				2.5	5.0	10.0	20.0	50.0	100.0
T651	PLATE	0.5	0.2		39.53				
T7351	PLATE	0.5	0.13		7.22				
		0.5	0.2		7.85				

TABLE 8.9.1.2.26

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: S-T **ENVIRONMENT: Lab Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK *Level* ($Ksi\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7352	FORGING	0.33	5.17			13.29			

TABLE 8.9.1.2.27

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: S-T **ENVIRONMENT: Nitrogen Gas**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				Δ*K Level* (*Ksi*$\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T651	PLATE	0.5	20		2.24				
T7351	PLATE	0.5	10		1.4				
		0.5	1-20		1.51	12.04			

TABLE 8.9.1.2.28

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK 7075 AT ROOM TEMPERATURE

ORIENTATION: S-L **ENVIRONMENT: Lab Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	*FCGR* (10^{-6} *in/cycle*)					
				ΔK *Level* (*Ksi*$\sqrt{in}$)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7352	FORGING	0.33	5.17			19.48			

TABLE 8.9.2.1

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	$2.5 * (K_{Ic}/TYS)^2$ (in.)	K_{Ic} K_{Ic} (Ksi * √in.)	K_{Ic} K_{Ic} MEAN	K_{Ic} STAN DEV	DATE	REFER
T6	Forging	0.50	R.T.	L-T	79.0	1.000	0.500	CT	0.534	0.23	24.20	24.3	0.1	1973	86213
		0.50			79.0	1.000	0.500	CT	0.523	0.24	24.40			1973	86213
T6	Forging	0.89	R.T.	T-L	67.2	0.500	0.249	NB	0.265	0.21	19.70	20.9	1.7	1973	86213
		0.89			70.0	0.500	0.249	NB	0.273	0.25	22.10			1973	86213
T6	Forging	0.50	R.T.	S-L	65.4	1.000	0.499	CT	0.493	0.17	17.00	16.8	0.4	1973	86213
		0.50			65.4	1.000	0.500	CT	0.510	0.16	16.70			1973	86213
		0.50			65.4	1.000	0.500	CT	0.496	0.16	16.40			1973	86213
		0.50			65.4	1.000	0.500	CT	0.505	0.17	17.20			1973	86213
T6	Forging	0.75	82	L-T	69.9	2.000	0.500	CT	1.025	0.44	29.20	---	---	1973	86213
T6	Forging	0.89	82	T-L	57.4	1.500	0.749	CT	0.785	0.32	20.40	19.4	1.7	1973	86213
		0.89			57.4	1.500	0.749	CT	0.762	0.32	20.40			1973	86213
		0.75			67.6	1.000	0.500	CT	0.511	0.17	17.50			1973	86213
T6	Forging	0.89	84	T-L	68.0	1.500	0.750	CT	0.792	0.24	21.20	20.6	0.8	1973	86213
		0.89			68.0	1.500	0.750	CT	0.798	0.22	20.00			1973	86213
T6	Extrusion	2.00	R.T.	T-L	72.0	1.500	0.750	CT	0.797	0.19	20.00	19.9	0.2	1973	86213
		2.00			73.6	1.500	0.749	CT	0.798	0.18	19.70			1973	86213
		2.00			73.6	1.500	0.748	CT	0.791	0.19	20.10			1973	86213
T6	Extrusion	2.00	R.T.	S-L	67.0	1.500	0.748	CT	0.791	0.19	18.50	18.5	0.2	1973	86213
		2.00			67.0	1.500	0.750	CT	0.798	0.19	18.30			1973	86213
		2.00			67.2	1.500	0.749	CT	0.808	0.19	18.70			1973	86213
T6	Forged Bar	---	R.T.	C-L	68.6	1.500	0.750	CT	0.750	0.20	19.60	19.5	0.2	1972	82879
		---			68.6	1.500	0.750	CT	0.750	0.20	19.30			1972	82879

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic} K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} K_{Ic} MEAN	K_{Ic} STAN DEV	DATE	REFER
T6	Rolled Bar	4.50	82	T-L	62.9	1.500	0.749	CT	0.788	0.40	25.30	24.3	1.2	1973	86213
		4.50			62.9	1.500	0.750	CT	0.789	0.35	23.60			1973	86213
		4.50			62.9	1.500	0.749	CT	0.796	0.41	25.40			1973	86213
		4.50			62.9	1.500	0.749	CT	0.778	0.33	23.00			1973	86213
T651	Plate	1.38	-320	T-L	92.0	3.000	1.390	NB	1.580	0.19	25.10	---	---	1971	84288
T651	Plate	1.38	-112	T-L	82.8	3.000	1.390	NB	1.520	0.19	22.60	22.6	0.0	1971	84288
		1.37			82.8	2.990	1.388	NB	1.517	0.19	22.60			1973	86213
T651	Plate	0.62	-65	T-L	80.8	1.250	0.630	CT	0.600	0.18	21.80	21.4	0.6	1973	88140
		0.62			80.8	1.250	0.630	CT	0.600	0.17	21.00			1973	88140
T651	Plate	1.37	R.T.	L-S	75.4	1.010	0.499	CT	0.525	0.32	27.50	---	---	1978	MPC01
T651	Plate	5.00	R.T.	L-T	56.0	2.006	0.999	CT	1.003	0.70	30.00	26.5	2.0	1978	MPC01
		4.00			61.0	3.982	1.998	CT	1.991	0.50	27.60			1978	MPC01
		4.00			61.0	4.016	1.998	CT	1.968	0.48	27.30			1978	MPC01
		3.00			66.8	2.002	0.999	CT	1.001	0.42	27.80			1978	MPC01
		2.50			69.7	2.000	0.999	CT	1.000	0.28	24.10			1978	MPC01
		2.00			70.0	2.000	0.828	CT	1.037	0.42	28.70			1972	84306
		3.00			70.2	2.500	1.250	CT	1.273	0.48	30.60			1971	84360
		3.00			70.2	2.490	1.250	CT	1.329	0.44	29.40			1971	84360
		2.00			72.2	1.996	0.999	CT	1.038	0.44	30.50			1978	MPC01
		2.00			72.2	1.994	0.999	CT	1.037	0.42	30.10			1978	MPC01
		2.00			73.3	1.989	0.999	CT	1.034	0.32	26.80			1978	MPC01
		2.00			73.9	3.007	1.000	CT	1.654	0.36	28.80			1978	MPC01
		2.50			74.6	2.490	1.246	CT	1.228	0.27	24.50			1971	84360

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_{Ic} (Ksi • √in.)	K_{Ic} MEAN	STAN DEV		
T651 Cont'd	Plate Cont'd	2.50	R.T. Cont'd	L-T Cont'd	74.6	2.500	1.250	CT	1.252	0.31	26.20	Cont'd	Cont'd	1971	84360
		1.37			75.4	3.008	1.388	NB	1.534	0.30	26.70			1978	MPC01
		1.37			75.4	1.983	0.997	CT	1.051	0.32	27.70			1978	MPC01
		1.37			75.4	3.000	1.388	NB	1.509	0.30	26.00			1973	86213
		1.37			75.4	3.000	1.386	NB	1.472	0.30	26.10			1973	86213
		1.37			75.4	3.029	1.387	NB	1.454	0.34	28.10			1978	MPC01
		1.37			75.4	2.973	1.384	NB	1.516	0.28	26.20			1978	MPC01
		1.37			75.4	2.978	1.386	NB	1.489	0.30	26.60			1978	MPC01
		1.37			75.4	3.013	1.385	NB	1.627	0.38	29.60			1978	MPC01
		1.37			75.4	1.989	0.997	CT	1.054	0.34	28.30			1978	MPC01
		1.37			75.4	3.000	1.384	NB	1.436	0.26	24.10			1973	86213
		1.37			75.4	3.014	1.388	NB	1.477	0.40	30.30			1978	MPC01
		2.50			75.5	2.502	1.250	CT	1.248	0.35	28.20			1974	MA011
		2.50			75.5	2.559	1.255	CT	1.324	0.32	27.20			1975	MA012
		2.00			75.7	2.490	1.251	CT	1.271	0.29	25.80			1971	84360
		2.00			75.7	2.500	1.248	CT	1.269	0.28	25.20			1971	84360
		1.75			76.1	1.490	0.748	CT	0.775	0.25	24.50			1978	MPC01
		1.75			76.1	1.500	0.750	CT	0.765	0.27	25.50			1978	MPC01
		1.50			76.1	1.502	0.749	CT	0.766	0.27	25.60			1978	MPC01
		1.50			76.1	1.514	0.748	CT	0.772	0.28	25.90			1978	MPC01
		0.62			76.2	1.496	0.642	CT	0.778	0.32	27.80			1978	MPC01
		1.75			77.2	1.500	0.748	CT	0.765	0.27	25.60			1978	MPC01

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV		
T651 Cont'd	Plate Cont'd	2.50	R.T. Cont'd	L-T Cont'd	77.2	1.990	1.001	CT	0.975	0.32	27.80	Cont'd	Cont'd	1973	86213
		1.75			77.2	1.506	0.747	CT	0.768	0.25	25.10			1978	MPC01
		2.50			77.2	1.990	1.001	CT	0.978	0.32	27.80			1973	86213
		1.25			78.4	2.006	1.000	CT	1.023	0.24	24.70			1978	MPC01
		0.50			78.8	1.498	0.510	CT	0.764	0.28	27.50			1978	MPC01
		1.37			79.1	3.000	1.375	NB	1.437	0.26	25.60			1973	86213
		1.37			79.1	3.000	1.386	NB	1.476	0.24	24.70			1973	86213
		1.37			79.1	3.000	1.386	NB	1.465	0.26	25.70			1973	86213
		1.37			79.1	3.012	1.386	NB	1.476	0.24	25.20			1978	MPC01
		1.37			79.1	2.988	1.386	NB	1.494	0.24	25.20			1978	MPC01
		1.37			79.1	2.980	1.386	NB	1.460	0.25	25.60			1978	MPC01
		1.37			79.1	3.000	1.375	NB	1.500	0.23	24.00			1973	86213
		1.37			79.1	3.014	1.387	NB	1.507	0.15	20.10			1978	MPC01
		0.62			79.2	1.574	0.643	CT	0.772	0.28	27.60			1978	MPC01
		1.37			80.6	3.000	1.371	NB	1.563	0.25	25.40			1973	86213
		1.37			80.6	1.500	0.752	CT	0.772	0.28	27.10			1973	86213
		1.37			80.6	3.000	1.373	NB	1.550	0.25	25.60			1973	86213
		1.37			80.6	1.500	0.752	CT	0.747	0.27	26.30			1973	86213
		1.37			80.6	3.029	1.371	NB	1.484	0.19	23.30			1978	MPC01
		0.62			81.1	2.043	0.606	CT	1.042	0.27	26.80			1978	MPC01
		1.62			81.2	1.496	0.749	CT	0.778	0.19	22.80			1978	MPC01
		1.62			81.2	1.490	0.750	CT	0.775	0.19	22.80			1978	MPC01

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	$2.5 \cdot (K_{Ic}/TYS)^2$ (in.)	K_{Ic} K_{Ic} (Ksi $\cdot \sqrt{in.}$)	K_{Ic} K_{Ic} MEAN	K_{Ic} STAN DEV	DATE	REFER
T651 Cont'd	Plate Cont'd	1.75	R.T. Cont'd	L-T Cont'd	81.5	1.991	1.001	CT	1.055	0.27	27.50	Cont'd	Cont'd	1978	MPC01
		1.75			81.5	1.985	1.002	CT	1.032	0.24	26.00			1978	MPC01
		1.75			81.5	1.990	1.002	CT	1.039	0.26	26.30			1973	86213
		1.75			81.5	2.000	1.001	CT	1.053	0.28	27.40			1973	86213
		1.75			81.5	2.021	1.000	CT	1.051	0.27	26.90			1978	MPC01
		1.75			81.5	2.010	1.000	CT	1.058	0.28	27.20			1973	86213
T651	Plate	5.00	R.T.	T-L	51.3	2.018	0.999	CT	0.989	0.50	23.50	22.5	2.0	1978	MPC01
		4.00			59.6	4.000	1.998	CT	2.080	0.34	22.30			1978	MPC01
		4.00			59.6	3.973	1.999	CT	2.066	0.34	22.20			1978	MPC01
		2.50			60.9	2.018	0.999	CT	1.009	0.34	22.80			1978	MPC01
		2.00			68.2	1.010	0.499	CT	0.495	0.25	22.30			1978	MPC01
		2.00			68.2	3.002	0.499	CT	0.501	0.25	21.90			1978	MPC01
		3.00			68.6	1.990	0.999	CT	1.035	0.25	22.10			1978	MPC01
		1.75			69.5	1.513	0.748	CT	0.726	0.19	20.00			1978	MPC01
		1.75			69.5	1.496	0.749	CT	0.733	0.19	19.90			1978	MPC01
		2.50			69.8	1.994	1.001	CT	1.037	0.24	21.90			1978	MPC01
		2.00			70.4	1.992	0.999	CT	1.036	0.25	23.10			1978	MPC01
		2.00			70.6	1.992	0.999	CT	1.016	0.28	24.30			1978	MPC01
		1.75			70.6	1.512	0.750	CT	0.756	0.21	20.80			1978	MPC01
		2.00			70.6	2.002	0.999	CT	1.021	0.28	24.30			1978	MPC01
		1.75			70.6	1.504	0.748	CT	0.722	0.19	20.30			1978	MPC01
		0.50			72.6	3.000	0.499	NB	1.500	0.34	26.90			1978	MPC01

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV		
T651 Cont'd	Plate Cont'd	0.50	R.T. Cont'd	T-L Cont'd	72.6	3.018	0.499	NB	1.479	0.30	25.60	Cont'd	Cont'd	1978	MPC01
		0.50			72.6	2.996	0.499	NB	1.438	0.30	25.60			1978	MPC01
		0.50			72.6	3.027	0.499	NB	1.453	0.28	25.00			1978	MPC01
		0.50			72.6	2.996	0.499	NB	1.438	0.28	25.00			1978	MPC01
		0.50			72.6	2.973	0.499	NB	1.516	0.32	26.60			1978	MPC01
		2.00			73.1	3.015	1.001	CT	1.628	0.24	23.00			1978	MPC01
		1.75			73.3	1.489	0.748	CT	0.774	0.22	22.70			1978	MPC01
		1.75			73.3	1.494	0.748	CT	0.777	0.22	22.30			1978	MPC01
		1.37			73.4	3.002	1.392	NB	1.501	0.21	22.00			1978	MPC01
		1.37			73.4	1.998	1.000	CT	1.079	0.25	24.00			1978	MPC01
		1.37			73.4	3.000	1.392	NB	1.530	0.24	22.70			1973	86213
		1.37			73.4	3.000	1.392	NB	1.593	0.18	19.70			1973	86213
		1.37			73.4	3.022	1.391	NB	1.511	0.27	24.40			1978	MPC01
		1.37			73.4	2.998	1.391	NB	1.499	0.21	21.40			1978	MPC01
		1.37			73.4	3.024	1.392	NB	1.542	0.15	18.60			1978	MPC01
		1.37			73.4	3.000	1.391	NB	1.576	0.25	23.30			1973	86213
		1.37			73.4	3.002	1.391	NB	1.441	0.25	24.00			1978	MPC01
		1.75			74.4	2.002	1.002	CT	1.021	0.19	21.30			1978	MPC01
		1.75			74.4	2.000	1.002	CT	1.033	0.21	21.70			1973	86213
		1.75			74.4	1.992	1.002	CT	1.036	0.22	23.00			1978	MPC01
		1.75			74.4	2.000	1.002	CT	1.030	0.23	22.40			1973	86213
		1.75			74.4	1.990	1.003	CT	1.034	0.24	22.90			1973	86213

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	$2.5 \cdot (K_{Ic}/TYS)^2$ (in.)	K_{Ic} K_{Ic} (Ksi $\cdot\sqrt{in.}$)	K_{Ic} K_{Ic} MEAN	K_{Ic} STAN DEV	DATE	REFER
T651 Cont'd	Plate Cont'd	1.50	R.T. Cont'd	T-L Cont'd	74.5	1.502	0.748	CT	0.796	0.25	24.10	Cont'd	Cont'd	1978	MPC01
		1.75			74.5	1.493	0.748	CT	0.821	0.19	21.50			1978	MPC01
		1.50			74.5	1.504	0.750	CT	0.782	0.24	23.60			1978	MPC01
		1.00			74.9	1.986	0.980	CT	1.092	0.22	22.50			1978	MPC01
		1.00			74.9	1.987	0.979	CT	1.093	0.21	22.30			1978	MPC01
		1.62			75.6	1.494	0.748	CT	0.762	0.18	20.90			1978	MPC01
		1.62			75.6	1.502	0.749	CT	0.766	0.18	21.10			1978	MPC01
		0.50			75.9	1.498	0.509	CT	0.764	0.25	24.80			1978	MPC01
		0.50			75.9	1.508	0.509	CT	0.754	0.24	24.20			1978	MPC01
		0.37			76.0	1.496	0.379	CT	0.763	0.21	22.50			1978	MPC01
		0.62			76.2	1.516	0.643	CT	0.773	0.27	25.80			1978	MPC01
		0.62			76.2	1.510	0.642	CT	0.770	0.25	25.10			1978	MPC01
		0.62			76.5	1.998	0.606	CT	0.979	0.19	21.80			1978	MPC01
		1.37			77.3	2.994	1.369	NB	1.527	0.16	20.30			1978	MPC01
		1.37			77.7	3.000	1.375	NB	1.484	0.16	19.80			1973	86213
		1.38			77.7	3.000	1.387	NB	1.484	0.33	19.70			1971	84288
		1.37			77.7	3.002	1.386	NB	1.534	0.21	22.90			1978	MPC01
		1.37			77.7	2.996	1.375	NB	1.468	0.18	21.00			1978	MPC01
		1.38			77.7	3.000	1.385	NB	1.676	0.34	19.30			1971	84288
		1.38			77.7	3.000	1.385	NB	1.566	0.36	21.10			1971	84288
		1.37			77.7	3.000	1.375	NB	1.469	0.18	21.00			1973	86213
		1.38			77.7	3.000	1.385	NB	1.575	0.36	21.30			1971	84288

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV		
T651 Cont'd	Plate Cont'd	1.37	R.T. Cont'd	T-L Cont'd	77.7	3.016	1.385	NB	1.508	0.15	19.80	Cont'd	Cont'd	1978	MPC01
		1.38			77.7	3.000	1.387	NB	1.469	0.35	20.80			1971	84288
		1.37			77.7	3.000	1.375	NB	1.484	0.17	20.20			1973	86213
		1.37			77.7	3.000	1.386	NB	1.519	0.21	22.60			1973	86213
		1.37			77.7	3.000	1.375	NB	1.500	0.15	19.60			1978	MPC01
		1.38			77.7	3.000	1.385	NB	1.584	0.33	19.50			1971	84288
		1.38			77.7	3.000	1.387	NB	1.484	0.33	20.00			1971	84288
		1.38			77.7	3.000	1.386	NB	1.519	0.38	22.60			1971	84288
		1.25			78.9	2.006	0.999	CT	1.023	0.16	20.70			1978	MPC01
		1.37			79.3	1.496	0.751	CT	0.778	0.27	26.40			1978	MPC01
		1.37			79.3	1.506	0.752	CT	0.768	0.27	26.20			1978	MPC01
		1.37			79.3	1.498	0.752	CT	0.764	0.27	26.70			1978	MPC01
		0.62			80.6	1.250	0.630	CT	0.600	0.19	22.40			1973	88140
		0.62			80.6	1.250	0.630	CT	0.600	0.20	23.10			1973	88140
		0.50			80.7	1.994	0.504	CT	0.977	0.21	23.90			1978	MPC01
T651	Plate	4.00	R.T.	S-L	56.8	2.983	1.499	CT	1.551	0.36	21.60	17.6	2.7	1978	MPC01
		4.00			56.8	3.031	1.500	CT	1.546	0.38	22.50			1978	MPC01
		2.50			65.2	1.996	0.999	CT	0.998	0.18	18.00			1978	MPC01
		2.50			65.8	2.006	1.002	CT	1.043	0.19	18.70			1978	MPC01
		2.50			65.8	1.994	1.001	CT	1.057	0.18	18.00			1978	MPC01
		2.50			65.8	2.010	1.002	CT	1.036	0.20	18.50			1973	86213
		2.50			65.8	2.000	1.001	CT	1.046	0.18	17.60			1973	86213

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV		
T651 Cont'd	Plate Cont'd	1.75	R.T. Cont'd	S-L Cont'd	70.2	0.992	0.500	CT	0.496	0.10	14.60	Cont'd	Cont'd	1978	MPC01
		1.75			70.2	1.000	0.500	CT	0.497	0.11	14.70			1973	86213
		1.75			70.2	1.000	0.500	CT	0.503	0.11	14.80			1973	86213
		1.75			70.2	1.000	0.500	CT	0.496	0.11	15.00			1973	86213
T651	Plate	2.00	82	T-L	67.2	1.000	0.499	CT	0.502	0.31	23.50	21.7	1.6	1973	86213
		2.00			67.2	1.000	0.500	CT	0.494	0.33	24.50			1973	86213
		2.00			67.4	1.000	0.500	CT	0.481	0.22	20.20			1973	86213
		2.00			67.4	4.000	1.997	CT	2.190	0.25	21.40			1973	86213
		2.00			67.4	1.000	0.500	CT	0.479	0.22	20.10			1973	86213
		2.00			67.4	1.000	0.500	CT	0.481	0.25	21.30			1973	86213
		2.00			67.4	1.000	0.500	CT	0.476	0.22	20.00			1973	86213
		2.00			68.2	1.000	0.499	CT	0.501	0.26	21.90			1973	86213
		2.00			68.2	1.000	0.500	CT	0.495	0.27	22.30			1973	86213
T651	Plate	2.00	82	S-L	64.1	1.000	0.500	CT	0.492	0.14	15.30	15.3	0.1	1973	86213
		2.00			64.1	1.000	0.500	CT	0.485	0.14	15.20			1973	86213
		2.00			64.1	1.000	0.498	CT	0.493	0.14	15.40			1973	86213
T651	Plate	2.00	83	L-T	76.8	2.000	1.000	CT	1.010	0.36	29.00	29.1	0.1	1973	86213
		2.00			76.8	2.000	1.000	CT	0.998	0.36	29.10			1973	86213
T651	Plate	2.00	83	T-L	67.4	3.000	1.500	CT	1.654	0.27	22.20	23.2	0.9	1973	86213
		2.00			74.1	2.000	1.001	CT	0.963	0.25	23.30			1973	86213
		2.00			74.1	2.000	1.000	CT	0.981	0.26	24.00			1973	86213

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV		
T651	Plate	2.50	84	L-T	72.3	0.990	0.503	CT	0.518	0.32	25.70	24.9	1.2	1973	86213
		2.50			72.3	0.990	0.503	CT	0.504	0.28	24.00			1973	86213
T651	Plate	2.00	84	S-L	64.7	1.500	0.750	CT	0.727	0.22	19.10	18.3	0.7	1973	86213
		2.00			64.7	1.490	0.750	CT	0.731	0.21	18.70			1973	86213
		2.50			65.2	2.000	0.999	CT	0.998	0.19	18.00			1973	86213
		2.50			65.8	0.990	0.502	CT	0.509	0.20	18.40			1973	86213
		2.50			65.8	0.990	0.502	CT	0.505	0.18	17.80			1973	86213
		2.50			66.6	1.490	0.746	CT	0.707	0.16	17.10			1973	86213
		2.50			66.6	1.490	0.749	CT	0.715	0.20	18.90			1973	86213
T651	Plate	2.50	85	L-T	72.8	2.000	1.000	CT	1.020	0.32	25.90	25.9	0.0	1973	86213
		2.50			72.8	2.000	1.001	CT	1.058	0.32	25.90			1973	86213
T651	Plate	2.50	85	S-L	64.2	2.000	1.001	CT	1.004	0.21	18.60	19.0	0.6	1973	86213
		2.50			64.2	2.000	1.001	CT	0.991	0.23	19.40			1973	86213
T651	Plate	1.75	86	T-L	69.5	1.500	0.748	CT	0.726	0.21	20.00	20.3	0.4	1973	86213
		1.75			69.5	1.500	0.749	CT	0.733	0.20	19.90			1973	86213
		1.75			70.6	1.500	0.748	CT	0.722	0.21	20.30			1973	86213
		1.75			70.6	1.500	0.750	CT	0.756	0.22	20.80			1973	86213
T651	Plate	1.37	88	T-S	73.4	1.000	0.500	CT	0.519	0.32	26.10	26.7	0.8	1973	86213
		1.37			73.4	1.000	0.500	CT	0.496	0.34	27.20			1973	86213
T651	Plate	1.37	88	S-T	67.3	1.000	0.500	CT	0.492	0.20	18.80	19.0	0.2	1973	86213
		1.37			67.3	1.000	0.500	CT	0.491	0.20	19.10			1973	86213

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	$2.5 \cdot (K_{Ic}/TYS)^2$ (in.)	K_{Ic} (Ksi • $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV	DATE	REFER
T651	Plate	1.75	88	S-L	61.8	1.000	0.500	CT	0.496	0.19	17.10	18.4	1.2	1973	86213
		1.75			61.8	1.000	0.500	CT	0.485	0.21	17.70			1973	86213
		1.75			61.8	1.000	0.500	CT	0.493	0.20	17.50			1973	86213
		1.37			67.3	1.000	0.501	CT	0.488	0.19	18.70			1973	86213
		1.37			67.3	1.000	0.501	CT	0.518	0.21	19.40			1973	86213
		1.37			67.3	1.000	0.500	CT	0.486	0.22	20.00			1973	86213
T651	Plate	2.50	90	S-L	66.7	1.990	1.002	CT	0.972	0.15	16.40	---	---	1973	86213
T651	Plate	0.62	125	T-L	74.8	1.250	0.630	CT	0.600	0.26	24.00	24.2	0.3	1973	88140
		0.62			74.8	1.250	0.630	CT	0.600	0.27	24.40			1973	88140
T651	Extrusion	3.00	R.T.	L-T	69.5	2.990	1.498	CT	1.548	0.50	31.20	31.1	0.5	1973	86213
		3.00			69.5	2.990	1.499	CT	1.550	0.51	31.30			1973	86213
		3.00			77.2	3.000	1.500	CT	1.595	0.39	30.30			1973	86213
		3.00			77.2	3.000	1.499	CT	1.577	0.42	31.50			1973	86213
T651	Extrusion	5.00	R.T.	T-L	62.6	2.990	1.499	CT	1.540	0.26	20.10	20.2	0.2	1973	86213
		3.00			64.7	2.990	1.499	CT	1.548	0.25	20.50			1973	86213
		3.00			64.7	2.990	1.500	CT	1.542	0.25	20.30			1973	86213
		3.00			69.5	3.000	1.499	CT	1.566	0.21	20.20			1973	86213
		3.00			69.5	3.000	1.499	CT	1.573	0.20	19.90			1973	86213
T651	Extrusion	3.50	82	L-T	83.0	2.000	0.999	CT	1.032	0.38	32.30	32.3	0.1	1973	86213
		3.50			83.0	2.000	0.999	CT	1.027	0.38	32.20			1973	86213
T651	Extrusion	3.50	82	T-L	68.9	2.000	0.999	CT	0.994	0.17	18.20	18.3	0.1	1973	86213
		3.50			68.9	2.000	0.999	CT	0.976	0.18	18.30			1973	86213

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV	DATE	REFER
T651	Extrusion	3.00	82	S-L	64.4	2.000	1.000	CT	1.005	0.26	20.70	20.1	0.8	1973	86213
		3.00			64.4	2.000	1.000	CT	1.014	0.23	19.50			1973	86213
T651	Extrusion	5.00	82	L-R	73.6	3.000	1.498	CT	1.548	0.58	35.50	33.9	1.6	1973	86213
		5.00			73.6	3.000	1.498	CT	1.549	0.53	34.00			1973	86213
		3.50			74.9	2.000	1.000	CT	1.065	0.46	32.30			1973	86213
T651	Extrusion	5.00	82	R-L	64.4	3.000	1.499	CT	1.588	0.28	21.70	20.4	1.4	1973	86213
		5.00			64.4	3.000	1.498	CT	1.585	0.28	21.40			1973	86213
		3.50			68.2	2.000	1.000	CT	1.059	0.20	19.40			1973	86213
		3.50			68.2	2.000	1.000	CT	1.043	0.19	19.00			1973	86213
T651	Rolled Bar	5.00	R.T.	L-T	72.4	2.990	1.496	CT	1.603	0.56	34.40	34.1	0.5	1973	86213
		5.00			72.4	2.990	1.496	CT	1.595	0.54	33.70			1973	86213
T651	Rolled Bar	5.00	R.T.	T-L	62.6	2.990	1.495	CT	1.523	0.22	18.60	---	---	1973	86213
T651	Rolled Bar	3.00	82	L-T	78.7	3.000	1.500	CT	1.628	0.37	30.40	30.5	0.1	1973	86213
		3.00			78.7	3.000	1.499	CT	1.636	0.38	30.50			1973	86213
T651	Rolled Bar	3.00	82	S-L	66.0	1.990	1.002	CT	0.962	0.18	17.80	17.8	0.0	1973	86213
		3.00			66.0	1.990	1.001	CT	0.964	0.18	17.80			1973	86213
T651	Rolled Bar	3.50	82	L-R	76.9	2.000	1.000	CT	1.063	0.49	34.20	33.9	0.4	1973	86213
		3.50			76.9	2.000	1.000	CT	1.044	0.48	33.60			1973	86213
T6510	Extrusion	3.50	R.T.	L-S	73.6	1.990	1.000	NB	1.063	0.64	37.20	38.8	2.3	1973	86213
		3.50			75.3	1.990	1.000	NB	0.989	0.72	40.40			1973	86213
T6510	Extrusion	3.50	R.T.	L-T	75.7	2.000	1.000	CT	1.035	0.44	31.80	27.5	2.1	1973	86213
		3.50			75.7	2.000	1.000	CT	0.995	0.44	31.80			1973	86213
		0.84			80.4	1.000	0.500	NB	0.502	0.26	26.10			1973	86213

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_Q/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_Q (Ksi * $\sqrt{in.}$)	K_Q MEAN	STAN DEV		
T6510 Cont'd	Extrusion Cont'd	0.84	R.T. Cont'd	L-T Cont'd	80.4	1.000	0.499	NB	0.471	0.29	27.50	Cont'd	Cont'd	1973	86213
		0.84			80.6	0.990	0.500	NB	0.476	0.26	26.00			1973	86213
		0.84			81.2	1.000	0.500	NB	0.505	0.30	28.20			1973	86213
		0.84			81.2	1.000	0.499	NB	0.505	0.27	26.70			1973	86213
		0.68			81.8	1.500	0.657	NB	0.765	0.26	26.60			1973	86213
		0.68			82.4	1.500	0.659	NB	0.722	0.28	27.60			1973	86213
		0.68			86.4	1.490	0.664	NB	0.729	0.22	25.80			1973	86213
		0.68			86.4	1.490	0.667	NB	0.740	0.22	25.60			1973	86213
		0.68			86.4	1.490	0.623	NB	0.696	0.24	26.50			1973	86213
T6510	Extrusion	3.50	R.T.	T-L	66.7	1.000	0.500	NB	0.500	0.26	21.50	23.3	1.6	1973	86213
		3.50			67.2	1.990	1.000	CT	1.003	0.27	21.90			1973	86213
		3.50			67.2	0.990	0.500	NB	0.469	0.25	21.10			1973	86213
		3.50			67.2	0.990	0.500	NB	0.495	0.24	20.90			1973	86213
		3.50			67.2	1.990	1.000	CT	0.974	0.27	22.10			1973	86213
		0.84			77.0	1.000	0.500	NB	0.461	0.26	24.70			1973	86213
		0.84			77.0	0.990	0.501	NB	0.467	0.23	23.60			1973	86213
		0.84			77.6	1.000	0.500	NB	0.461	0.19	21.40			1973	86213
		0.84			77.6	1.000	0.500	NB	0.475	0.25	24.40			1973	86213
		0.84			77.6	1.000	0.500	NB	0.482	0.23	23.70			1973	86213
		0.84			77.8	1.000	0.500	NB	0.512	0.29	26.50			1973	86213
		0.84			78.0	1.000	0.500	NB	0.467	0.24	24.20			1973	86213
		0.84			78.0	1.000	0.499	NB	0.488	0.24	24.00			1973	86213

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV		
T6510 Cont'd	Extrusion Cont'd	0.68	R.T. Cont'd	T-L Cont'd	78.7	1.490	0.664	NB	0.684	0.23	24.00	Cont'd	Cont'd	1973	86213
		0.68			78.8	1.490	0.660	NB	0.691	0.22	23.20			1973	86213
		0.68			78.8	1.490	0.660	NB	0.700	0.25	24.80			1973	86213
T6510	Extrusion	3.50	R.T.	S-L	61.7	1.990	1.000	CT	0.941	0.24	19.20	20.0	1.3	1973	86213
		3.50			61.7	2.000	1.001	CT	0.965	0.24	19.20			1973	86213
		3.50			72.5	0.500	0.251	NB	0.274	0.22	21.50			1973	86213
T6510	Forged Bar	3.50	R.T.	L-S	73.6	1.995	0.999	NB	1.097	0.70	39.50	39.6	0.1	1978	MPC01
		3.50			75.3	1.992	1.000	NB	0.976	0.67	39.60			1978	MPC01
T6510	Forged Bar	3.50	R.T.	L-T	74.6	2.006	0.998	NB	1.063	0.46	32.40	29.2	3.4	1978	MPC01
		3.50			75.7	1.994	1.000	CT	1.037	0.44	31.90			1978	MPC01
		3.50			75.7	2.004	1.000	CT	1.002	0.44	32.10			1978	MPC01
		5.00			77.4	4.036	1.987	CT	2.018	0.52	35.70			1978	MPC01
		3.09			78.2	3.007	1.499	CT	1.563	0.34	29.30			1978	MPC01
		1.18			78.9	2.518	1.104	CT	1.284	0.22	24.30			1978	MPC01
		0.68			81.8	1.506	0.657	NB	0.783	0.27	27.70			1978	MPC01
		0.68			82.4	1.492	0.659	NB	0.716	0.27	27.20			1978	MPC01
		2.75			83.0	1.991	0.999	CT	1.075	0.30	29.50			1978	MPC01
		2.81			83.6	2.976	1.499	CT	1.577	0.34	31.40			1978	MPC01
		0.68			86.4	1.502	0.623	NB	0.691	0.22	26.20			1978	MPC01
		0.68			86.4	1.500	0.667	NB	0.735	0.21	25.40			1978	MPC01
		0.68			86.4	1.498	0.664	NB	0.734	0.22	26.10			1978	MPC01

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	$2.5 * (K_{Ic}/TYS)^2$ (in.)	K_{Ic} K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} K_{Ic} MEAN	K_{Ic} STAN DEV	DATE	REFER
T6510	Forged Bar	5.00	R.T.	T-L	61.0	5.024	2.500	CT	2.562	0.27	20.70	21.4	1.8	1978	MPC01
		3.50			66.7	0.998	0.500	NB	0.509	0.27	22.10			1978	MPC01
		3.50			67.2	1.984	1.000	CT	0.972	0.25	22.00			1978	MPC01
		3.50			67.2	2.012	1.000	CT	1.006	0.25	22.00			1978	MPC01
		3.50			67.2	0.990	0.500	NB	0.495	0.24	20.90			1978	MPC01
		3.50			67.2	1.000	0.500	NB	0.470	0.24	21.20			1978	MPC01
		3.09			68.0	3.970	2.001	CT	2.144	0.22	20.80			1978	MPC01
		2.81			68.4	2.987	1.498	CT	1.553	0.18	18.80			1978	MPC01
		2.75			68.6	2.508	1.250	CT	1.279	0.15	17.60			1978	MPC01
		1.18			74.5	2.487	1.104	CT	1.293	0.22	22.80			1978	MPC01
		0.68			78.7	1.482	0.664	NB	0.667	0.21	23.20			1978	MPC01
		0.68			78.8	1.502	0.660	NB	0.676	0.19	22.50			1978	MPC01
		0.68			78.8	1.491	0.660	NB	0.686	0.22	24.10			1978	MPC01
T6510	Forged Bar	5.00	R.T.	S-L	59.3	3.000	1.500	CT	1.530	0.28	20.30	18.7	0.9	1978	MPC01
		3.50			61.7	2.015	1.001	CT	0.967	0.24	19.30			1978	MPC01
		3.50			61.7	2.015	1.000	CT	0.927	0.22	18.80			1978	MPC01
		3.50			61.8	0.500	0.249	NB	0.275	0.22	19.10			1978	MPC01
		3.09			62.6	2.481	1.250	CT	1.290	0.21	18.20			1978	MPC01
		2.81			65.9	2.018	0.999	CT	0.989	0.16	17.70			1978	MPC01
		2.75			67.5	2.010	0.998	CT	0.985	0.16	17.80			1978	MPC01
T6511	Extrusion	1.25	R.T.	L-T	79.2	3.011	1.217	NB	1.596	0.32	28.90	27.9	1.4	1978	MPC01
		1.25			79.4	3.029	1.219	NB	1.575	0.27	26.90			1978	MPC01

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	2.5 * $(K_Q/TYS)^2$ (in.)	K_Q (Ksi * $\sqrt{in.}$)	K_Q MEAN	STAN DEV	DATE	REFER
T6511	Extrusion	1.25	R.T.	T-L	75.4	3.014	1.170	NB	1.567	0.27	25.50	26.9	1.8	1978	MPC01
		1.25			75.4	3.016	1.170	NB	1.538	0.28	25.20			1978	MPC01
		1.25			75.8	2.996	1.166	NB	1.498	0.34	28.30			1978	MPC01
		1.25			75.8	2.977	1.168	NB	1.518	0.34	28.50			1978	MPC01
T6511	Extrusion	1.25	83	L-T	79.2	3.000	1.217	NB	1.547	0.30	27.40	26.4	1.4	1973	86213
		1.25			79.4	3.000	1.219	NB	1.525	0.26	25.40			1973	86213
T6511	Extrusion	1.25	83	T-L	75.4	3.000	1.170	NB	1.515	0.27	24.60	26.2	1.8	1973	86213
		1.25			75.4	3.000	1.170	NB	1.535	0.27	24.60			1973	86213
		1.25			75.8	3.000	1.168	NB	1.495	0.34	27.80			1973	86213
		1.25			75.8	3.000	1.166	NB	1.480	0.34	27.80			1973	86213
T73	Forging	1.00	R.T.	T-L	61.3	1.000	0.498	CT	0.509	0.43	25.30	---	---	1973	86213
T73	Forging	1.00	R.T.	S-L	57.0	1.000	0.499	CT	0.498	0.29	19.40	19.1	0.5	1973	86213
		1.00			57.0	1.000	0.499	CT	0.512	0.29	19.50			1973	86213
		1.00			57.0	1.000	0.499	CT	0.509	0.26	18.30			1973	86213
		1.00			57.0	1.000	0.499	CT	0.501	0.28	19.00			1973	86213
T73	Forging	4.00	82	L-T	57.0	2.990	1.503	CT	1.605	1.19	39.30	39.1	0.4	1973	86213
		4.00			59.5	3.000	1.503	CT	1.589	1.06	38.80			1973	86213
T73	Forging	4.00	82	T-L	53.8	3.000	1.500	CT	1.622	0.54	24.90	22.8	3.2	1973	86213
		4.00			54.7	3.000	1.500	CT	1.587	0.53	25.20			1973	86213
		4.00			55.6	3.000	1.500	CT	1.593	0.60	27.30			1973	86213
		4.00			56.8	3.000	1.500	CT	1.592	0.38	22.20			1973	86213
		0.75			60.8	1.000	0.500	CT	0.495	0.25	19.20			1973	86213

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	2.5 • $(K_{Ic}/TYS)^2$ (in.)	K_{Ic} (Ksi • $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV	DATE	REFER
T73 Cont'd	Forging Cont'd	0.75	82 Cont'd	T-L Cont'd	60.8	1.000	0.500	CT	0.513	0.24	18.70	Cont'd	Cont'd	1973	86213
		0.89			64.4	1.500	0.749	CT	0.805	0.29	21.90			1973	86213
T73	Forging	4.00	82	S-L	54.7	3.000	1.504	CT	1.524	0.41	22.10	---	---	1973	86213
T73	Forging	4.00	84	S-L	53.0	3.000	1.488	CT	1.621	0.71	28.20	27.9	0.4	1973	86213
		4.00			54.5	3.000	1.499	CT	1.569	0.66	28.00			1973	86213
		4.00			56.4	3.000	1.499	CT	1.636	0.59	27.50			1973	86213
T73	Forging	0.89	85	T-L	64.3	1.500	0.751	CT	0.816	0.23	19.60	19.8	0.2	1973	86213
		0.89			64.3	1.500	0.751	CT	0.827	0.24	19.90			1973	86213
T73	Forged Bar	---	R.T.	C-L	64.4	1.500	0.750	CT	0.750	0.26	20.60	21.5	0.7	1972	82879
		---			64.4	1.500	0.750	CT	0.750	0.29	22.00			1972	82879
		---			64.4	1.500	0.750	CT	0.750	0.27	21.10			1972	82879
		---			64.4	1.500	0.750	CT	0.750	0.29	22.10			1972	82879
T7351	Plate	1.37	-320	T-L	66.0	3.000	1.387	NB	1.522	0.45	28.10	29.2	1.0	1973	86213
		1.37			66.0	3.000	1.385	NB	1.530	0.50	29.50			1973	86213
		1.37			66.0	3.000	1.385	NB	1.480	0.52	30.10			1973	86213
T7351	Plate	1.37	-112	T-L	59.1	3.000	1.387	NB	1.562	0.57	28.20	---	---	1973	86213
T7351	Plate	4.00	R.T.	L-T	53.2	2.490	1.256	CT	1.271	0.87	31.20	29.4	2.2	1972	84363
		4.00			53.2	2.490	1.248	CT	1.243	0.86	31.10			1972	84363
		4.00			53.2	2.500	1.258	CT	1.223	0.86	31.00			1972	84363
		1.25			54.5	2.500	1.247	CT	1.286	1.01	34.80			1977	MA005
		1.25			54.5	2.493	1.250	CT	1.281	1.13	36.70			1977	MA005
		3.50			55.1	2.008	0.998	CT	1.004	0.60	27.20			1978	MPC01

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	$2.5*(K_{Ic}/TYS)^2$ (in.)	K_{Ic} K_{Ic} (Ksi * √in.)	K_{Ic} K_{Ic} MEAN	K_{Ic} STAN DEV	DATE	REFER
T7351 Cont'd	Plate Cont'd	3.00	R.T. Cont'd	L-T Cont'd	56.6	2.010	0.998	CT	1.005	0.60	27.90	Cont'd	Cont'd	1978	MPC01
		1.25			57.8	2.493	1.250	CT	1.303	0.74	31.60			1977	MA005
		1.25			57.8	2.502	1.250	CT	1.263	0.59	28.10			1977	MA005
		2.00			58.0	2.990	0.994	CT	1.587	0.69	30.40			1972	84306
		2.00			58.0	2.990	0.996	CT	1.576	0.75	31.70			1972	84306
		2.00			58.0	2.990	0.995	CT	1.575	0.78	32.30			1972	84306
		1.37			59.1	2.002	1.004	NB	1.101	0.55	28.00			1978	MPC01
		1.37			59.1	2.000	1.012	NB	1.100	0.52	27.70			1978	MPC01
		1.37			59.1	2.004	1.002	NB	1.082	0.50	26.60			1978	MPC01
		2.50			59.6	2.000	1.000	CT	0.971	0.59	29.00			1973	86213
		2.50			60.0	2.010	0.999	CT	1.005	0.44	25.70			1978	MPC01
		1.00			61.7	1.028	0.514	WOL-CT EQ.	---	0.68	32.20			1980	MR001
		1.00			61.7	1.028	0.514	WOL-CT EQ.	---	0.65	31.70			1980	MR001
		1.00			62.0	2.000	1.000	CT	---	0.55	29.00			1982	NC003
		1.00			62.0	2.000	1.000	CT	---	0.55	29.00			1982	NC003
		1.00			62.2	1.983	1.000	CT	1.031	0.46	26.80			1978	MPC01
		1.50			64.2	1.996	0.999	CT	1.018	0.46	27.90			1978	MPC01
		2.00			64.7	2.990	0.805	CT	1.530	0.43	27.00			1972	84306
		2.00			64.7	2.000	0.821	CT	1.074	0.41	26.30			1972	84306
		2.00			64.7	2.000	0.819	CT	1.070	0.40	25.80			1972	84306
		2.00			64.7	3.000	0.827	CT	1.512	0.50	29.10			1972	84306

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	$2.5 \cdot (K_{Ic}/TYS)^2$ (in.)	K_{Ic} (Ksi $\cdot \sqrt{in.}$)	K_{Ic} MEAN	STAN DEV	DATE	REFER
T7351 Cont'd	Plate Cont'd	2.00	R.T. Cont'd	L-T Cont'd	64.7	3.000	0.805	CT	1.547	0.44	27.20	Cont'd	Cont'd	1972	84306
		2.00			64.7	2.000	0.823	CT	1.074	0.44	27.30			1972	84306
		1.00			65.9	1.989	0.976	CT	1.074	0.52	30.40			1978	MPC01
		1.00			65.9	1.994	0.975	CT	1.077	0.50	30.30			1978	MPC01
		1.37			66.3	2.986	1.375	NB	1.493	0.44	28.30			1978	MPC01
		1.37			66.3	3.020	1.374	NB	1.480	0.52	30.60			1978	MPC01
		1.37			66.3	3.022	1.374	NB	1.481	0.48	29.50			1978	MPC01
		1.37			66.3	3.012	1.375	NB	1.536	0.48	29.40			1978	MPC01
		1.37			66.3	2.020	1.002	CT	1.030	0.46	29.10			1978	MPC01
		1.37			66.3	3.000	1.375	NB	1.440	0.41	26.80			1973	86213
		1.37			66.3	3.000	1.375	NB	1.585	0.53	30.60			1973	86213
		1.37			66.3	3.000	1.375	NB	1.545	0.50	29.70			1973	86213
		1.37			66.3	3.000	1.374	NB	1.554	0.56	31.30			1973	86213
		1.37			66.3	3.000	1.374	NB	1.506	0.52	30.30			1973	86213
		1.37			66.3	3.000	1.374	NB	1.485	0.54	30.80			1973	86213
		1.37			66.3	3.028	1.375	NB	1.514	0.44	28.20			1978	MPC01
		1.37			66.3	3.027	1.374	NB	1.483	0.46	29.00			1978	MPC01
		1.37			66.3	2.018	1.001	CT	1.029	0.48	29.60			1978	MPC01
		1.37			66.3	2.022	1.001	CT	1.011	0.46	28.70			1978	MPC01
		2.00			67.1	3.007	1.001	CT	1.624	0.52	31.20			1978	MPC01

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV		
T7351	Plate	3.50	R.T.	T-L	54.9	1.992	0.998	CT	0.976	0.42	22.70	26.2	3.2	1978	MPC01
		1.38			56.8	3.000	1.380	NB	1.557	0.65	28.90			1972	82880
		1.38			56.8	2.000	1.000	NB	1.015	0.56	27.00			1972	82880
		1.38			56.8	1.500	0.750	NB	0.782	0.55	26.60			1972	82880
		1.38			56.8	1.500	0.750	NB	0.763	0.54	26.50			1972	82880
		1.38			56.8	1.500	0.750	NB	0.792	0.58	27.30			1972	82880
		1.38			56.8	3.000	1.390	NB	1.498	0.59	27.60			1972	82880
		1.38			56.8	2.000	1.000	NB	1.065	0.65	28.90			1972	82880
		1.38			56.8	3.000	1.380	NB	1.538	0.61	28.10			1972	82880
		1.38			56.8	2.000	1.000	NB	1.035	0.59	27.70			1972	82880
		3.00			57.1	1.990	0.999	CT	1.015	0.34	21.60			1978	MPC01
		1.37			58.5	2.000	1.012	NB	1.069	0.80	33.10			1973	86213
		1.37			58.5	2.000	1.011	NB	1.030	0.76	32.30			1973	86213
		1.37			58.5	2.018	1.011	NB	1.029	0.75	32.30			1978	MPC01
		1.37			58.5	2.000	1.011	NB	1.075	0.79	32.80			1973	86213
		1.37			58.5	2.014	1.011	NB	1.027	0.65	30.20			1978	MPC01
		1.37			58.5	1.985	1.012	NB	1.032	0.70	31.10			1978	MPC01
		2.00			59.0	2.990	0.995	CT	1.564	0.47	25.60			1972	84306
		2.00			59.0	2.990	0.995	CT	1.551	0.44	24.80			1972	84306
		1.00			61.7	1.028	0.514	WOL-CT EQ.	---	0.40	24.90			1980	MR001
		1.00			61.7	1.028	0.514	WOL-CT EQ.	---	0.40	24.79			1980	MR001
		1.00			62.2	1.996	0.979	CT	1.038	0.32	22.70			1978	MPC01
		1.00			62.2	2.004	0.978	CT	1.082	0.32	23.00			1978	MPC01

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	$2.5 * (K_{Ic}/TYS)^2$ (in.)	K_{Ic} K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} K_{Ic} MEAN	K_{Ic} STAN DEV	DATE	REFER
T7351 Cont'd	Plate Cont'd	1.50	R.T. Cont'd	T-L Cont'd	64.2	1.994	0.999	CT	1.017	0.30	22.60	Cont'd	Cont'd	1978	MPC01
		1.37			64.6	3.006	1.373	NB	1.503	0.40	25.90			1978	MPC01
		1.37			64.6	2.002	1.000	CT	1.021	0.36	25.10			1978	MPC01
		1.37			64.6	1.992	1.001	CT	1.016	0.36	24.80			1978	MPC01
		1.37			64.6	2.012	1.001	CT	1.026	0.36	24.80			1978	MPC01
		1.37			64.6	3.025	1.375	NB	1.482	0.34	24.20			1978	MPC01
		1.37			64.6	3.025	1.373	NB	1.482	0.36	24.90			1978	MPC01
		1.37			64.6	3.024	1.375	NB	1.542	0.32	23.80			1978	MPC01
		1.37			64.6	3.000	1.375	NB	1.528	0.39	25.40			1973	86213
		2.00			66.0	3.000	0.827	CT	1.515	0.31	23.10			1972	84306
		2.00			66.0	3.000	0.806	CT	1.538	0.28	22.00			1972	84306
		2.00			66.0	3.000	0.827	CT	1.536	0.30	23.00			1972	84306
		2.00			67.6	3.020	1.000	CT	1.631	0.28	23.10			1978	MPC01
T7351	Plate	2.00	R.T.	S-L	60.0	1.500	0.499	CT	0.762	0.23	18.20	18.5	0.4	1972	84306
		1.37			61.2	1.000	0.500	CT	0.492	0.22	18.20			1973	86213
		1.37			61.2	1.000	0.500	CT	0.488	0.24	18.80			1973	86213
		1.37			61.2	1.000	0.501	CT	0.497	0.24	18.80			1973	86213
		1.37			61.2	1.010	0.500	CT	0.485	0.22	18.70			1978	MPC01
		1.37			61.2	1.000	0.501	CT	0.500	0.24	19.00			1978	MPC01
		1.37			61.2	0.996	0.500	CT	0.488	0.21	18.00			1978	MPC01
T7351	Plate	2.50	82	L-T	64.8	1.490	0.749	CT	0.778	0.43	26.90	27.1	0.2	1973	86213
		2.50			64.8	1.490	0.748	CT	0.768	0.44	27.20			1973	86213

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV		
T7351	Plate	2.00	83	L-T	57.3	2.000	1.000	CT	0.967	0.66	29.40	28.9	0.7	1973	86213
		2.00			57.3	2.000	1.000	CT	0.985	0.61	28.40			1973	86213
T7351	Plate	2.00	83	T-L	56.5	2.000	0.999	CT	0.961	0.43	23.40	---	---	1973	86213
T7351	Plate	2.00	84	S-L	54.3	1.490	0.750	CT	0.724	0.32	19.40	19.1	0.6	1973	86213
		2.00			54.3	1.500	0.750	CT	0.730	0.33	19.60			1973	86213
		2.50			59.8	0.990	0.502	CT	0.509	0.26	19.10			1973	86213
		2.50			59.8	0.990	0.502	CT	0.509	0.23	18.20			1973	86213
T7351	Plate	1.75	88	S-L	60.2	1.000	0.500	CT	0.502	0.23	18.30	18.2	0.7	1973	86213
		1.75			60.2	1.000	0.500	CT	0.500	0.25	18.90			1973	86213
		1.75			60.2	1.000	0.500	CT	0.496	0.21	17.50			1973	86213
T7351	Extrusion	0.97	82	S-L	53.5	1.000	0.458	CT	0.491	0.37	20.50	21.3	0.9	1973	86213
		0.97			55.6	1.000	0.408	CT	0.515	0.40	22.30			1973	86213
		0.97			55.8	1.000	0.454	CT	0.517	0.35	21.00			1973	86213
T7351	Extrusion	0.97	84	L-T	65.3	2.000	0.950	CT	0.969	0.65	33.30	33.5	0.5	1973	86213
		0.97			65.3	2.000	0.949	CT	0.965	0.67	33.70			1973	86213
		0.97			65.7	2.000	0.948	CT	1.035	0.67	33.90			1973	86213
		0.97			65.7	2.000	0.951	CT	1.011	0.67	34.00			1973	86213
		0.97			65.9	2.000	0.953	CT	1.013	0.63	33.20			1973	86213
		0.97			65.9	2.000	0.952	CT	1.004	0.61	32.60			1973	86213
T7351	Extrusion	4.50	84	T-L	52.3	2.000	1.000	CT	0.968	0.40	20.80	20.6	0.6	1973	86213
		7.04			54.4	2.000	0.997	CT	1.018	0.34	20.00			1973	86213
		7.04			54.4	2.000	0.997	CT	1.007	0.35	20.30			1973	86213
		4.65			58.2	2.000	0.998	CT	1.017	0.30	20.30			1973	86213

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV	DATE	REFER
T7351 Cont'd	Extrusion Cont'd	4.65	84 Cont'd	T-L Cont'd	58.2	2.000	0.999	CT	1.015	0.30	20.10	Cont'd	Cont'd	1973	86213
		1.22			59.9	2.000	0.997	CT	1.034	0.30	20.60			1973	86213
		1.22			59.9	2.000	0.999	CT	1.016	0.28	20.10			1973	86213
		0.97			61.4	2.000	0.950	CT	0.941	0.27	20.30			1973	86213
		0.97			61.4	2.000	0.952	CT	0.997	0.32	21.80			1973	86213
		0.97			61.4	2.000	0.949	CT	0.972	0.28	20.40			1973	86213
		0.97			61.4	2.000	0.949	CT	0.945	0.26	19.70			1973	86213
		0.97			61.6	2.000	0.951	CT	0.948	0.28	20.50			1973	86213
		0.97			61.6	2.000	0.948	CT	0.965	0.28	20.50			1973	86213
		1.22			61.8	2.000	1.000	CT	1.049	0.31	21.90			1973	86213
		1.22			61.8	2.000	0.987	CT	1.031	0.29	21.20			1973	86213
T7351	Extrusion	7.04	86	T-L	52.5	2.000	0.999	CT	1.008	0.44	22.00	20.6	1.3	1973	86213
		7.04			52.5	2.000	0.998	CT	1.005	0.42	21.40			1973	86213
		4.65			58.9	2.000	1.001	CT	1.024	0.27	19.30			1973	86213
		4.65			58.9	2.000	0.999	CT	1.018	0.28	19.80			1973	86213
T7351	Extrusion	7.04	86	S-L	51.8	2.000	0.999	CT	0.954	0.33	18.90	19.4	0.7	1973	86213
		7.04			51.8	2.000	0.999	CT	0.971	0.38	20.10			1973	86213
		4.65			55.6	2.000	0.997	CT	0.991	0.28	18.70			1973	86213
		4.65			55.6	2.000	0.999	CT	1.008	0.31	19.70			1973	86213
T73510	Extrusion	0.68	R.T.	L-T	65.0	1.500	0.620	NB	0.695	0.58	31.30	---	---	1969	77140

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * (K_{Ic}/TYS)² (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_{Ic} (Ksi * √in.)	K_{Ic} MEAN	STAN DEV		
T73510	Extrusion	3.50	R.T.	T-L	56.8	1.000	0.500	NB	0.515	0.39	22.40	24.6	2.3	1969	77140
		3.50			58.6	0.990	0.500	NB	0.471	0.40	23.50			1969	77140
		3.50			58.6	0.990	0.500	NB	0.485	0.36	22.20			1969	77140
		3.50			58.6	1.990	1.001	CT	0.949	0.42	23.90			1969	77140
		3.50			58.6	1.990	1.001	CT	0.946	0.41	23.80			1969	77140
		3.50			59.8	0.990	0.500	NB	0.470	0.42	24.50			1969	77140
		3.50			59.8	0.990	0.500	NB	0.465	0.42	24.60			1969	77140
		0.68			63.6	1.490	0.660	NB	0.673	0.51	28.60			1973	86213
		0.68			63.6	1.490	0.658	NB	0.678	0.49	28.10			1973	86213
T73510	Extrusion	3.50	R.T.	S-L	54.8	2.000	1.001	CT	0.944	0.36	20.80	20.3	0.8	1969	77140
		3.50			54.8	2.000	1.001	CT	0.929	0.32	19.70			1969	77140
T73511	Extrusion	4.00	0	L-T	---	3.000	1.479	CT	1.527	---	43.15	43.3	0.5	1990	SW001
		4.00			---	3.002	1.481	CT	1.539	---	43.85			1990	SW001
		4.00			---	3.002	1.480	CT	1.522	---	42.87			1990	SW001
T73511	Extrusion	4.00	0	T-L	---	3.001	1.485	CT	1.572	---	25.09	25.1	0.4	1990	SW001
		4.00			---	3.004	1.480	CT	1.572	---	25.45			1990	SW001
		4.00			---	3.002	1.483	CT	1.574	---	24.75			1990	SW001
T73511	Extrusion	3.50	R.T.	L-T	66.0	4.000	1.629	CT	1.934	0.80	37.20	39.6	3.1	1973	85836
		3.50			66.0	4.000	1.998	CT	2.009	1.07	43.30			1973	85836
		3.50			66.0	4.000	1.998	CT	1.970	0.95	40.80			1973	85836
		3.50			66.0	4.000	1.998	CT	1.969	0.78	36.90			1973	85836

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	$2.5 * (K_{Ic}/TYS)^2$ (in.)	K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	K_{Ic} STAN DEV	DATE	REFER
T73511	Extrusion	3.50	R.T.	T-L	66.0	3.500	1.747	CT	1.738	0.44	27.50	26.8	1.1	1973	85836
		3.50			66.0	3.500	1.752	CT	1.855	0.37	25.50			1973	85836
		3.50			66.0	3.500	1.750	CT	1.840	0.43	27.40			1973	85836
T73511	Extrusion	3.50	R.T.	S-L	66.0	2.000	1.002	CT	1.009	0.29	22.60	21.9	1.1	1973	85836
		3.50			66.0	2.000	0.996	CT	0.993	0.25	21.10			1973	85836
T73511	Extrusion	3.17	82	L-T	64.3	1.500	0.749	CT	0.792	0.73	34.80	34.7	0.1	1973	86213
		3.17			64.3	1.500	0.748	CT	0.766	0.72	34.60			1973	86213
T73511	Extrusion	1.25	83	L-T	63.6	3.000	1.213	NB	1.460	0.73	34.30	36.9	2.6	1973	86213
		1.25			63.6	3.000	1.214	NB	1.520	0.76	35.00			1973	86213
		1.25			67.6	3.000	1.220	NB	1.445	0.80	38.20			1973	86213
		1.25			67.6	3.000	1.218	NB	1.485	0.87	39.90			1973	86213
T73511	Extrusion	1.25	83	T-L	62.2	3.000	1.170	NB	1.467	0.61	30.60	32.6	2.6	1973	86213
		1.25			62.2	3.000	1.168	NB	1.437	0.59	30.20			1973	86213
		1.25			66.3	3.000	1.165	NB	1.487	0.70	35.00			1973	86213
		1.25			66.3	3.000	1.170	NB	1.440	0.68	34.70			1973	86213
T73511	Extrusion	3.50	265	T-L	65.0	4.000	2.001	CT	2.065	0.49	28.80	29.0	0.3	1973	86210
		3.50			65.0	4.000	2.002	CT	2.054	0.50	29.20			1973	86210
T73511-HIGH/ PURITY	Extruded Bar	1.50	R.T.	L-T	68.6	2.500	1.250	CT	---	1.04	44.20	43.0	1.7	1980	WA001
		1.50			68.6	2.500	1.250	CT	---	0.93	41.80			1980	WA001
T73511-HIGH/ PURITY	Extruded Bar	1.50	R.T.	T-L	63.0	2.500	1.250	CT	---	0.57	30.00	30.0	0.1	1980	WA001
		1.50			63.0	2.500	1.250	CT	---	0.56	29.90			1980	WA001

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	$2.5 * (K_{Ic}/TYS)^2$ (in.)	K_{Ic} K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} K_{Ic} MEAN	K_{Ic} STAN DEV	DATE	REFER
T73511-LOW/ PURITY	Extruded Bar	1.50	R.T.	L-T	65.3	2.500	1.250	CT	---	0.43	27.10	27.3	0.2	1980	WA001
		1.50			65.3	2.500	1.250	CT	---	0.44	27.40			1980	WA001
T73511-LOW/ PURITY	Extruded Bar	1.50	R.T.	T-L	60.9	2.500	1.250	CT	---	0.28	20.50	21.7	1.7	1980	WA001
		1.50			60.9	2.500	1.250	CT	---	0.35	22.90			1980	WA001
T73511-MEDIUM/ PURITY	Extruded Bar	1.50	R.T.	L-T	68.4	2.500	1.250	CT	---	0.49	30.40	30.6	0.2	1980	WA001
		1.50			68.4	2.500	1.250	CT	---	0.50	30.70			1980	WA001
T73511-MEDIUM/ PURITY	Extruded Bar	1.50	R.T.	T-L	62.9	2.500	1.250	CT	---	0.30	21.70	21.9	0.3	1980	WA001
		1.50			62.9	2.500	1.250	CT	---	0.31	22.10			1980	WA001
T7352	Forging	5.00	R.T.	L-T	52.5	3.000	1.502	NB	1.577	1.12	35.10	33.6	3.1	1970	77720
		5.00			52.5	3.000	1.503	NB	1.507	1.00	33.20			1970	77720
		5.00			52.5	3.000	1.499	NB	1.607	1.21	36.50			1970	77720
		6.00			55.4	3.990	2.002	NB	2.160	1.63	39.30			1970	77720
		6.00			55.4	3.990	2.002	NB	2.138	1.67	39.70			1970	77720
		4.00			59.5	3.000	1.500	NB	1.585	0.69	31.20			1970	77720
		4.00			59.5	3.000	1.498	NB	1.610	0.74	32.40			1970	77720
		4.00			59.5	3.000	1.500	NB	1.677	0.84	34.60			1970	77720
		2.00			65.3	1.490	0.751	NB	0.722	0.61	32.20			1970	77720
		2.00			65.3	1.500	0.754	NB	0.747	0.54	30.30			1970	77720
		2.00			65.3	1.500	0.752	NB	0.748	0.59	31.60			1970	77720
		3.00			66.2	1.990	0.998	NB	0.983	0.63	33.10			1970	77720
		3.00			66.2	2.000	1.000	NB	0.993	0.54	30.60			1970	77720
		3.00			66.2	1.990	0.999	NB	0.955	0.53	30.50			1970	77720

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	2.5 * $(K_Q/TYS)^2$ (in.)	K_{Ic} K_Q (Ksi * $\sqrt{in.}$)	K_{Ic} K_Q MEAN	K_{Ic} STAN DEV	DATE	REFER
T7352	Forging	6.00	R.T.	T-L	50.3	4.000	2.002	NB	2.118	0.86	27.80	26.6	2.8	1970	77720
		6.00			50.3	4.000	2.003	NB	2.173	0.85	27.60			1970	77720
		5.00			50.7	3.000	1.500	NB	1.553	0.78	28.30			1970	77720
		5.00			50.7	3.000	1.501	NB	1.505	0.72	27.10			1970	77720
		5.00			50.7	3.000	1.500	NB	1.537	0.79	28.60			1970	77720
		4.00			55.2	3.000	1.500	NB	1.702	0.65	28.20			1970	77720
		4.00			55.2	3.000	1.499	NB	1.598	0.57	26.30			1970	77720
		4.00			55.2	3.000	1.499	NB	1.732	0.51	24.90			1970	77720
		...			57.0	2.494	1.252	CT	1.387	0.85	33.20			1975	MA012
		3.00			59.3	1.990	1.000	NB	0.968	0.37	22.80			1970	77720
		3.00			59.3	2.000	1.000	NB	0.992	0.39	23.50			1970	77720
		2.00			65.3	1.500	0.751	NB	0.728	0.33	23.70			1970	77720
		2.00			65.3	1.500	0.753	NB	0.750	0.34	24.20			1970	77720
T7352	Forging	6.00	R.T.	S-T	56.3	1.400	0.700	NB	0.700	0.39	22.00	21.7	0.5	1972	82675
		6.00			56.3	1.400	0.700	NB	0.700	0.36	21.30			1972	82675
T7352	Forging	6.00	R.T.	S-L	49.2	2.000	1.000	CT	0.999	0.88	26.50	21.7	3.2	1970	77720
		6.00			49.2	2.000	1.000	CT	0.997	0.74	24.10			1970	77720
		6.00			49.2	2.000	1.000	CT	1.027	0.79	25.40			1970	77720
		5.00			49.3	1.000	0.500	NB	0.478	0.40	19.60			1970	77720
		5.00			49.3	1.000	0.500	NB	0.493	0.37	19.00			1970	77720
		5.00			49.3	1.000	0.500	NB	0.458	0.34	18.30			1970	77720
		6.00			56.3	1.400	0.700	NB	0.700	0.32	20.10			1972	82675
		6.00			56.3	1.400	0.700	NB	0.700	0.32	20.20			1972	82675

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV		
T7352	Extrusion	7.04	84	T-L	54.6	2.000	0.997	CT	1.005	0.33	19.70	19.5	0.2	1973	86213
		4.65			58.9	2.000	1.000	CT	1.006	0.28	19.60			1973	86213
		4.65			58.9	2.000	0.999	CT	0.990	0.27	19.30			1973	86213
T7352	Extrusion	7.04	84	S-L	48.6	2.000	1.000	CT	0.968	0.37	18.70	19.0	1.3	1973	86213
		7.04			48.6	2.000	0.999	CT	0.956	0.35	18.30			1973	86213
		4.65			53.5	2.000	0.998	CT	0.934	0.28	18.00			1973	86213
		4.65			53.5	2.000	0.998	CT	1.020	0.38	20.90			1973	86213
T7352	Billet	2.35	R.T.	L-T	54.5	2.500	1.251	CT	1.212	0.85	31.80	---	---	1974	MA011
T73652	Forging	6.00	R.T.	L-T	70.0	4.000	2.001	CT	2.075	0.60	34.40	35.0	1.8	1973	85836
		6.00			70.0	4.000	2.005	CT	1.985	0.57	33.50			1973	85836
		6.00			70.0	4.000	2.005	CT	1.960	0.70	37.00			1973	85836
T73652	Forging	6.00	R.T.	T-L	67.0	3.500	1.745	CT	1.786	0.43	27.80	26.6	2.7	1973	85836
		6.00			67.0	3.500	1.745	CT	1.825	0.45	28.50			1973	85836
		6.00			67.0	3.500	1.746	CT	1.764	0.31	23.50			1973	85836
T73652	Forging	6.00	R.T.	S-L	57.0	2.000	1.003	CT	1.029	0.46	24.60	---	---	1973	85836
T7651	Plate	2.00	R.T.	L-T	62.4	4.000	1.989	CT	2.124	0.53	28.60	28.5	1.5	1973	86213
		2.00			62.4	3.967	1.981	CT	2.142	0.44	26.40			1978	MPC01
		2.00			62.4	4.000	1.987	CT	2.126	0.48	27.30			1973	86213
		2.00			62.4	4.011	1.987	CT	2.126	0.46	27.30			1978	MPC01
		2.00			62.4	4.008	1.989	CT	2.124	0.50	28.60			1978	MPC01
		2.00			62.4	4.000	1.981	CT	2.142	0.45	26.40			1973	86213
		2.00			62.9	4.000	1.959	CT	2.204	0.55	29.60			1973	86213
		2.00			62.9	4.000	1.961	CT	2.204	0.55	29.50			1973	86213

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV	DATE	REFER
T7651 Cont'd	Plate Cont'd	2.00	R.T. Cont'd	L-T Cont'd	63.0	2.000	0.751	CT	1.027	0.47	27.50	Cont'd	Cont'd	1972	84306
		2.00			63.0	2.000	0.755	CT	1.040	0.48	27.70			1972	84306
		2.00			63.0	2.000	0.753	CT	1.046	0.50	28.40			1972	84306
		2.30			64.0	2.500	1.245	CT	1.293	0.52	29.20			1973	85836
		2.00			64.7	3.000	0.805	CT	1.534	0.41	26.20			1973	86213
		2.00			64.7	2.000	0.827	CT	1.045	0.48	28.40			1973	86213
		2.00			64.7	2.000	0.828	CT	1.028	0.49	28.70			1973	86213
		2.00			64.7	2.000	0.820	CT	1.020	0.47	28.20			1973	86213
		2.30			65.0	2.500	1.245	CT	1.290	0.53	30.10			1973	85836
		2.30			65.0	2.500	1.244	CT	1.280	0.52	30.00			1973	85836
		2.50			66.0	2.500	1.253	CT	1.280	0.55	30.90			1973	85836
		2.50			66.0	2.500	1.254	CT	1.277	0.56	31.30			1973	85836
		2.50			66.0	2.500	1.257	CT	1.296	0.54	30.70			1973	85836
		2.00			68.2	1.986	0.900	CT	1.112	0.40	27.40			1978	MPC01
		2.00			68.2	1.995	0.901	CT	1.137	0.40	27.40			1978	MPC01
		2.00			68.7	3.004	1.000	CT	1.592	0.48	30.60			1978	MPC01
		2.00			69.2	2.005	0.901	CT	1.123	0.36	26.90			1978	MPC01
T7651	Plate	2.00	R.T.	T-L	61.2	3.017	0.802	CT	1.569	0.34	22.80	23.1	2.0	1978	MPC01
		2.00			61.3	2.971	0.801	CT	1.545	0.32	22.30			1978	MPC01
		2.60			62.0	1.500	0.500	CT	...	0.51	28.00			1974	90011
		2.00			62.0	4.000	1.992	CT	2.169	0.40	24.80			1973	86213
		2.00			62.0	4.017	1.992	CT	2.169	0.40	24.80			1978	MPC01

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_{Ic} (Ksi * $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV		
T7651 Cont'd	Plate Cont'd	2.60	R.T. Cont'd	T-L Cont'd	62.0	1.500	0.500	CT	---	0.44	26.00	Cont'd	Cont'd	1974	90011
		2.00			62.6	2.990	0.798	CT	1.555	0.30	22.40			1978	MPC01
		2.00			62.6	3.026	0.800	CT	1.513	0.30	22.10			1978	MPC01
		2.00			62.8	2.992	0.800	CT	1.526	0.30	22.40			1978	MPC01
		1.75			63.8	4.000	1.755	NB	2.120	0.34	23.40			1973	86213
		1.50			64.0	3.022	1.403	CT	1.632	0.34	23.90			1978	MPC01
		2.00			64.0	2.000	0.754	CT	1.013	0.32	22.80			1972	84306
		2.00			64.0	2.000	0.754	CT	1.023	0.35	24.00			1972	84306
		2.00			64.1	4.000	1.959	CT	2.219	0.38	25.00			1973	86213
		2.00			64.1	4.035	1.959	CT	2.219	0.38	25.60			1978	MPC01
		2.00			64.1	4.035	1.961	CT	2.219	0.38	25.50			1978	MPC01
		2.00			64.1	4.000	1.961	CT	2.219	0.40	25.50			1973	86213
		2.30			65.0	2.500	1.250	CT	---	0.31	23.00			1974	90011
		2.30			65.0	2.500	1.250	CT	---	0.31	23.00			1974	90011
		0.75			65.6	2.992	0.763	CT	1.496	0.25	21.30			1978	MPC01
		2.00			66.0	3.000	0.803	CT	1.558	0.28	22.00			1972	84306
		2.00			66.0	3.000	0.806	CT	1.549	0.29	22.20			1972	84306
		2.00			66.0	2.000	0.811	CT	1.054	0.27	21.50			1972	84306
		2.50			66.0	2.500	1.255	CT	1.293	0.34	24.30			1973	85836
		2.00			66.0	2.000	0.810	CT	1.047	0.23	19.90			1972	84306
		2.50			66.0	2.500	1.255	CT	1.276	0.31	23.30			1973	85836
		2.00			66.0	2.000	0.809	CT	1.074	0.27	21.70			1972	84306

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	$2.5 \cdot (K_Q/TYS)^2$ (in.)	K_{Ic} K_Q (Ksi $\cdot \sqrt{in.}$)	K_{Ic} K_Q MEAN	K_{Ic} STAN DEV	DATE	REFER
T7651 Cont'd	Plate Cont'd	0.56	R.T. Cont'd	T-L Cont'd	67.0	1.490	0.506	CT	0.831	0.42	27.60	Cont'd	Cont'd	1972	84306
		0.56			67.0	1.490	0.507	CT	0.836	0.37	25.70			1972	84306
		2.00			67.2	1.004	0.499	CT	0.502	0.28	23.50			1978	MPC01
		2.00			67.2	1.008	0.500	CT	0.494	0.32	24.60			1978	MPC01
		2.00			67.4	0.998	0.500	CT	0.479	0.21	20.10			1978	MPC01
		2.00			67.4	1.494	0.749	CT	0.717	0.24	21.10			1978	MPC01
		2.00			67.4	3.982	1.997	CT	2.190	0.24	21.40			1978	MPC01
		2.00			67.4	1.002	0.500	CT	0.481	0.24	21.30			1978	MPC01
		2.00			67.4	1.496	0.750	CT	0.733	0.22	20.80			1978	MPC01
		2.00			67.4	3.007	1.500	CT	1.654	0.25	22.20			1978	MPC01
		2.00			67.4	1.515	0.749	CT	0.727	0.22	20.30			1978	MPC01
		2.00			67.4	1.013	0.500	CT	0.476	0.21	20.00			1978	MPC01
		2.00			67.4	1.002	0.500	CT	0.481	0.21	20.20			1978	MPC01
		2.00			67.6	3.973	1.994	CT	2.066	0.24	21.00			1978	MPC01
		1.00			67.6	3.021	1.005	CT	1.571	0.34	25.20			1978	MPC01
		1.00			67.6	3.017	1.004	CT	1.569	0.34	25.40			1978	MPC01
		2.00			68.7	3.020	1.000	CT	1.631	0.28	23.80			1978	MPC01
		1.00			70.1	1.994	0.976	CT	1.057	0.22	21.30			1978	MPC01
T7651	Plate	2.00	R.T.	S-L	59.1	...	0.751	CT	0.730	0.25	19.00	17.8	1.5	1978	MPC01
		1.75			61.8	1.010	0.500	CT	0.485	0.19	17.60			1978	MPC01
		1.75			61.8	0.992	0.500	CT	0.496	0.18	17.00			1978	MPC01
		1.75			61.8	1.006	0.500	CT	0.493	0.19	17.50			1978	MPC01

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_Q/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_Q (Ksi • $\sqrt{in.}$)	K_Q MEAN	STAN DEV		
T7651 Cont'd	Plate Cont'd	2.00	R.T. Cont'd	S-L Cont'd	64.1	1.010	0.500	CT	0.485	0.15	16.20	Cont'd	Cont'd	1978	MPC01
		2.00			64.1	1.004	0.500	CT	0.492	0.15	16.30			1978	MPC01
		2.00			64.1	1.006	0.498	CT	0.493	0.14	15.40			1978	MPC01
		2.00			64.2	1.498	0.749	CT	0.764	0.21	18.80			1978	MPC01
		2.00			64.2	1.506	0.749	CT	0.768	0.19	18.10			1978	MPC01
		2.00			64.2	1.492	0.749	CT	0.776	0.19	18.20			1978	MPC01
		2.00			65.0	1.000	0.378	CT	0.447	0.14	15.20			1972	84306
		2.00			65.0	1.000	0.378	CT	0.450	0.17	17.10			1972	84306
		2.30			70.0	1.490	0.750	CT	0.758	0.19	19.40			1973	86210
		2.50			70.0	1.500	0.751	CT	0.766	0.20	19.60			1973	86210
		2.50			70.0	1.490	0.749	CT	0.774	0.20	19.80			1973	86210
		2.30			70.0	1.500	0.751	CT	0.768	0.20	19.90			1973	86210
T7651	Plate	0.50	82	L-T	62.2	1.000	0.490	CT	0.519	0.46	26.80	26.6	0.6	1973	86213
		0.50			62.2	1.000	0.490	CT	0.514	0.47	26.90			1973	86213
		0.50			62.2	1.000	0.492	CT	0.523	0.42	25.60			1973	86213
		0.50			67.2	1.000	0.486	CT	0.522	0.37	25.70			1973	86213
		0.50			67.2	1.000	0.487	CT	0.531	0.38	26.30			1973	86213
		1.00			67.7	2.000	0.993	CT	1.072	0.36	25.80			1973	86213
		1.00			67.7	2.000	0.993	CT	1.052	0.37	26.20			1973	86213
		1.00			67.7	2.000	0.993	CT	1.036	0.37	26.00			1973	86213
		1.00			68.8	2.000	1.001	CT	1.083	0.39	27.10			1973	86213
		1.00			68.8	2.000	1.001	CT	1.047	0.38	26.90			1973	86213

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	SPECIMEN DESIGN	CRACK LENGTH (in.) A	$2.5 \cdot (K_{Ic}/TYS)^2$ (in.)	K_{Ic} (Ksi • √in.)	K_{Ic} MEAN	STAN DEV	DATE	REFER
T7651 Cont'd	Plate Cont'd	1.00	82 Cont'd	L-T Cont'd	68.8	2.000	1.001	CT	1.045	0.39	27.20	Cont'd	Cont'd	1973	86213
		1.00			68.9	2.000	1.001	CT	1.093	0.38	27.00			1973	86213
		1.00			68.9	2.000	1.001	CT	1.104	0.40	27.60			1973	86213
		1.00			68.9	2.000	1.001	CT	1.036	0.38	26.80			1973	86213
T7651	Plate	1.00	82	T-L	65.6	2.000	0.993	CT	1.020	0.28	21.90	23.8	1.4	1973	86213
		1.00			65.6	2.000	0.992	CT	1.048	0.27	21.60			1973	86213
		1.00			65.6	2.000	0.992	CT	1.053	0.28	21.90			1973	86213
		0.50			66.4	1.000	0.493	CT	0.510	0.39	26.10			1973	86213
		0.50			66.4	1.000	0.493	CT	0.511	0.34	24.50			1973	86213
		0.50			66.4	1.000	0.492	CT	0.504	0.37	25.50			1973	86213
		0.50			67.3	1.000	0.485	CT	0.515	0.34	24.70			1973	86213
		0.50			67.3	1.000	0.487	CT	0.513	0.34	25.00			1973	86213
		0.50			67.3	1.000	0.485	CT	0.502	0.35	25.20			1973	86213
		1.00			67.6	2.000	1.001	CT	1.003	0.31	23.70			1973	86213
		1.00			67.6	2.000	1.000	CT	1.020	0.31	23.80			1973	86213
		1.00			67.6	2.000	1.001	CT	1.013	0.31	23.70			1973	86213
		1.00			68.4	2.000	1.002	CT	0.990	0.27	22.50			1973	86213
		1.00			68.4	2.000	1.001	CT	1.018	0.30	23.70			1973	86213
		1.00			68.4	2.000	1.002	CT	1.001	0.30	23.60			1973	86213
T7651	Plate	2.00	82	S-L	59.1	1.500	0.750	CT	0.742	0.28	19.70	19.4	0.6	1973	86213
		2.00			59.1	1.500	0.750	CT	0.737	0.26	19.10			1973	86213
		2.00			59.4	1.500	0.751	CT	0.794	0.30	20.60			1973	86213

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • $(K_{Ic}/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_{Ic} (Ksi • √in.)	K_{Ic} MEAN	STAN DEV		
T7651 Cont'd	Plate Cont'd	2.00	82 Cont'd	S-L Cont'd	59.4	1.500	0.751	CT	0.788	0.28	20.00	Cont'd	Cont'd	1973	86213
		2.00			59.8	1.500	0.751	CT	0.744	0.25	18.90			1973	86213
		2.00			59.8	1.500	0.751	CT	0.732	0.26	19.20			1973	86213
		2.00			59.8	1.500	0.751	CT	0.738	0.25	18.90			1973	86213
		2.00			60.9	1.500	0.751	CT	0.730	0.24	18.80			1973	86213
		2.00			60.9	1.500	0.751	CT	0.731	0.25	19.30			1973	86213
		2.00			60.9	1.500	0.751	CT	0.743	0.26	19.50			1973	86213
T7651	Plate	0.50	84	L-T	66.8	1.000	0.496	CT	0.498	0.37	25.60	26.1	1.5	1973	86213
		0.50			66.8	1.000	0.496	CT	0.506	0.35	25.10			1973	86213
		2.00			67.6	4.000	1.992	CT	2.053	0.35	25.20			1973	86213
		2.00			67.6	4.000	1.992	CT	2.041	0.33	24.40			1973	86213
		2.00			67.6	4.000	1.993	CT	2.082	0.34	24.90			1973	86213
		1.00			68.8	3.000	1.005	CT	1.575	0.43	28.50			1973	86213
		1.00			68.8	3.000	1.005	CT	1.584	0.34	28.30			1973	86213
		2.00			69.0	2.000	0.999	CT	1.034	0.36	26.30			1973	86213
		2.00			69.0	2.000	0.999	CT	1.036	0.38	26.90			1973	86213
T7651	Plate	0.50	84	T-L	67.0	1.000	0.496	CT	0.492	0.29	22.70	23.3	1.6	1973	86213
		0.50			67.0	1.000	0.496	CT	0.495	0.28	22.40			1973	86213
		0.50			67.0	1.000	0.496	CT	0.494	0.28	22.60			1973	86213
		2.00			67.4	2.000	0.999	CT	1.015	0.26	21.70			1973	86213
		1.00			67.6	3.000	1.005	CT	1.571	0.35	25.20			1973	86213
		1.00			67.6	3.000	1.004	CT	1.569	0.35	25.40			1973	86213

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_{Ic} (Ksi * √in.)	K_{Ic} MEAN	STAN DEV		
T7651	Plate	1.00	88	L-T	72.2	2.000	0.999	CT	1.023	0.31	25.30	25.3	0.2	1973	86213
		1.00			72.2	2.000	1.000	CT	1.047	0.31	25.50			1973	86213
		1.00			72.2	2.000	1.000	CT	1.041	0.30	25.20			1973	86213
T7651	Plate	1.00	88	T-L	70.0	2.000	1.001	CT	1.000	0.23	21.40	21.5	0.2	1973	86213
		1.00			70.0	2.000	1.002	CT	1.011	0.23	21.40			1973	86213
		1.00			70.0	2.000	1.004	CT	1.003	0.24	21.70			1973	86213
T7651	Plate	2.50	265	T-L	66.0	2.500	1.254	CT	1.281	0.37	25.40	26.0	0.8	1973	85836
		2.50			66.0	2.500	1.255	CT	1.288	0.40	26.50			1973	85836
T7651 (SP)	Plate	2.00	82	L-T	66.0	4.990	2.019	CT	2.757	1.09	43.60	42.1	1.4	1973	86213
		2.00			66.0	4.990	1.498	CT	2.599	1.05	42.70			1973	86213
		2.00			66.0	4.000	2.019	CT	2.120	0.97	41.20			1973	86213
		2.00			66.0	4.000	2.021	CT	2.122	0.93	40.20			1973	86213
		2.00			66.0	5.000	1.496	CT	2.610	1.09	43.60			1973	86213
		2.00			66.0	2.000	0.999	CT	1.024	0.96	41.00			1973	86213
T7651 (SP)	Plate	2.00	84	L-T	66.0	3.000	0.998	CT	1.503	0.79	37.20	39.0	3.4	1973	86213
		2.00			66.0	3.000	1.500	CT	1.578	1.05	42.80			1973	86213
		2.00			66.0	3.000	1.000	CT	1.503	0.71	35.20			1973	86213
		2.00			66.0	3.000	1.500	CT	1.568	0.96	40.80			1973	86213

TABLE 8.9.2.1 (CONCLUDED)

ALUMINUM 7075 K_{Ic}

CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * $(K_{Ic}/TYS)^2$ (in.)	K_{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_{Ic} (Ksi $\sqrt{in.}$)	K_{Ic} MEAN	STAN DEV		
T76511	Extrusion	7.04	R.T.	L-T	70.0	2.490	1.169	CT	1.298	0.54	32.50	35.7	4.4	1973	86210
		7.04			70.0	2.490	1.254	CT	1.298	0.65	34.80			1973	86210
		1.44			73.0	3.000	1.401	CT	1.556	0.48	32.10			1973	86213
		1.44			73.0	3.000	1.400	CT	1.574	0.49	32.40			1973	86213
		7.04			73.5	4.000	1.502	CT	---	0.79	41.30			1973	91123
		2.50			73.5	---	1.700	CT	1.950	0.79	41.30			1973	86212
T76511	Extrusion	7.04	R.T.	T-L	70.0	2.500	1.253	CT	1.299	0.23	21.20	23.6	2.8	1973	86210
		7.04			70.0	2.500	1.254	CT	1.300	0.23	21.10			1973	86210
		1.44			70.7	3.000	1.400	CT	1.516	0.33	25.70			1973	86213
		1.44			70.7	3.000	1.401	CT	1.565	0.34	26.20			1973	86213
T76511	Extrusion	1.25	83	L-T	66.5	3.000	1.215	NB	1.477	0.64	33.70	35.2	3.3	1973	86213
		1.25			66.5	3.000	1.212	NB	1.528	0.59	32.30			1973	86213
		1.25			67.8	3.000	1.220	NB	1.502	0.65	34.70			1973	86213
		1.25			67.8	3.000	1.217	NB	1.495	0.87	39.90			1973	86213
T76511	Extrusion	1.25	83	T-L	64.4	3.000	1.170	NB	1.437	0.54	29.80	32.7	3.8	1973	86213
		1.25			64.4	3.000	1.166	NB	1.450	0.50	28.90			1973	86213
		1.25			66.0	3.000	1.170	NB	1.485	0.76	36.40			1973	86213
		1.25			66.0	3.000	1.170	NB	1.467	0.72	35.50			1973	86213
T76511	Extrusion	1.44	84	S-L	65.7	2.000	0.821	CT	0.991	0.26	21.30	21.5	0.3	1973	86213
		1.44			65.7	2.000	0.822	CT	0.994	0.27	21.70			1973	86213
T76511	Extrusion	2.00	86	L-T	69.4	4.000	1.961	CT	2.079	0.50	31.10	---	---	1973	86213

TABLE 8.9.2.2

ALUMINUM 7075 K_C

CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K_{app}			K_C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) $2a_o$	FINAL (in.) $2a_f$	ONSET (Ksi) σ_o	MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	STAN DEV	K_C (Ksi$\sqrt{in}$)	K_C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES RESTRAINED																			
T6	Sheet	0.10	R.T.	L-T	75.9	1.500	0.100	0.500	0.570	---	44.90	42.76*	---	---	46.72*	---	---	1962	62306
T6	Sheet	0.10	R.T.	L-T	75.9	3.500	0.100	0.500	0.760	---	53.70	48.20*	---	---	60.44*	---	---	1962	62306
		0.10			75.9	3.500	0.100	0.770	1.140	---	46.40	52.61			66.49*			1962	62306
T6	Sheet	0.10	R.T.	L-T	75.9	6.000	0.100	2.000	2.450	---	33.50	63.81	---	---	73.42	---	---	1962	62306
T6	Sheet	0.09	R.T.	L-T	75.9	12.000	0.090	1.040	1.460	---	46.60	59.84	64.6	3.2	71.22	71.9	2.8	1969	75599
		0.09			75.9	12.000	0.090	2.340	2.860	---	33.70	66.17			74.04			1969	75599
		0.09			75.9	12.000	0.090	1.060	1.560	---	44.80	58.09			70.87			1969	75599
		0.09			75.9	12.000	0.090	1.400	1.860	---	43.60	65.20			75.65			1969	75599
		0.09			75.9	12.000	0.090	3.880	4.720	15.30	25.20	66.55			76.00			1969	75599
		0.09			75.9	12.000	0.090	2.800	3.460	---	29.90	64.90			73.51			1969	75599
		0.09			75.9	12.000	0.090	1.100	1.440	---	44.00	58.14			66.77			1969	75599
		0.09			75.9	12.000	0.090	1.560	1.880	---	41.20	65.17			71.89			1969	75599
		0.09			75.9	12.000	0.090	4.500	5.460	11.40	22.50	65.60			75.82			1969	75599
		0.09			75.9	12.000	0.090	1.080	1.420	---	46.10	60.35			69.45			1969	75599
		0.09			75.9	12.000	0.090	1.820	1.920	---	40.00	68.61			70.58			1969	75599
		0.09			75.9	12.000	0.090	3.180	3.600	---	28.20	65.90			71.04			1969	75599
		0.09			75.9	12.000	0.090	3.060	3.580	---	28.20	64.43			70.80			1969	75599
		0.09			75.9	12.000	0.090	2.040	2.320	---	35.60	64.89			69.57			1969	75599
		0.09			75.9	12.000	0.090	2.620	3.500	---	29.60	61.88			73.29			1969	75599

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C

CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K_{app}			K_C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) $2a_o$	FINAL (in.) $2a_f$	ONSET (Ksi) σ_o	MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	STAN DEV	K_c (Ksi$\sqrt{in}$)	K_c MEAN	STAN DEV		
BUCKLING OF CRACK EDGES RESTRAINED																			
T6 Cont'd	Sheet Cont'd	0.09	R.T. Cont'd	L-T Cont'd	75.9	12.000	0.090	2.100	2.300	---	34.90	64.61	Cont'd	Cont'd	67.88	Cont'd	Cont'd	1969	75599
		0.09			75.9	12.000	0.090	4.940	5.620	13.00	21.10	65.79			72.81			1969	75599
		0.09			75.9	12.000	0.090	3.440	3.700	21.70	27.70	67.86			70.99			1969	75599
		0.09			75.9	12.000	0.090	3.800	4.380	14.50	23.20	60.46			66.39			1969	75599
		0.09			75.9	12.000	0.090	3.560	4.260	13.70	25.10	62.80			70.49			1969	75599
		0.09			75.9	12.000	0.090	2.140	2.400	27.80	36.10	67.52			71.87			1969	75599
		0.09			75.9	12.000	0.090	2.240	2.740	27.80	33.30	63.84			71.39			1969	75599
		0.09			75.9	12.000	0.090	3.520	4.200	17.00	28.00	69.57			77.89			1969	75599
		0.09			75.9	12.000	0.090	1.960	2.380	---	35.90	64.05			71.15			1969	75599
		0.09			75.9	12.000	0.090	2.020	2.180	---	38.60	69.98			72.92			1969	75599
		0.09			75.9	12.000	0.090	2.440	3.060	---	33.20	66.71			75.85			1969	75599
T6	Sheet	0.09	R.T.	L-T	75.9	12.000	0.100	1.980	2.530	---	35.80	64.22	---	---	73.39	---	---	1969	75599
T6	Sheet	0.10	R.T.	L-T	75.9	24.000	0.100	1.990	2.360	---	37.00	65.70	67.2	2.2	71.67	71.5	0.2	1962	62306
		0.10			75.9	24.000	0.100	18.00	18.340	---	8.00	68.76			71.36			1962	62306
T6	Sheet	0.10	R.T.	L-T	75.9	36.000	0.100	18.00	19.100	---	11.50	72.72	64.9	9.6	76.82	72.8	6.1	1962	62306
		0.10			75.9	36.000	0.100	1.080	1.580	---	45.80	59.69			72.24			1962	62306
		0.10			75.9	36.000	0.100	9.930	11.180	---	17.50	72.55			78.03			1962	62306
		0.10			75.9	36.000	0.100	0.500	0.770	---	57.00	50.52			62.71			1962	62306
		0.10			75.9	36.000	0.100	4.000	4.630	---	27.30	68.96			74.38			1962	62306

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C

CONDITION HEAT TREAT	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	CRACK LENGTH INIT (in.) $2a_o$	CRACK LENGTH FINAL (in.) $2a_f$	GROSS STRESS ONSET (Ksi) σ_o	GROSS STRESS MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	K_{app} STAN DEV	K_C (Ksi$\sqrt{in}$)	K_C MEAN	K_C STAN DEV	DATE	REFER
BUCKLING OF CRACK EDGES RESTRAINED																			
T6	Sheet	0.10	R.T.	L-T	75.9	48.000	0.100	1.960	2.350	---	35.40	62.18	---	---	68.11	---	---	1962	62306
T6	Plate	0.25	R.T.	L-T	76.2	15.030	0.246	7.500	8.500	---	16.60	67.70	67.9	0.3	76.38	76.6	0.3	1965	62310
		0.25			76.2	15.060	0.246	7.500	8.500	---	16.70	68.06			76.75			1965	62310
T6	Sheet	0.06	R.T.	T-L	75.5	3.030	0.063	0.830	---	---	44.51	53.31*	---	---	---	---	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	4.500	0.063	1.230	---	---	38.20	55.68	54.3	1.9	---	---	---	1966	86734
		0.06			75.5	4.500	0.063	1.130	---	---	38.20	52.97			---			1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	6.000	0.064	1.700	---	---	33.00	56.76	---	---	---	---	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	7.000	0.061	3.120	---	---	23.40	59.24	---	---	---	---	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	8.000	0.061	3.440	---	---	23.90	62.89	---	---	---	---	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	10.000	0.061	3.260	---	---	28.10	68.11	65.0	4.4	---	---	---	1966	86734
		0.06			75.5	10.000	0.064	2.500	---	---	30.00	61.85			---			1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	12.000	0.061	3.000	---	---	26.60	60.08	61.2	1.5	---	---	---	1966	86734
		0.06			75.5	12.000	0.064	3.500	---	---	25.15	62.27			---			1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	15.000	0.063	4.000	---	---	24.30	63.73	---	---	---	---	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	16.000	0.061	3.400	---	---	28.00	66.57	---	---	---	---	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	18.000	0.064	5.500	---	---	21.05	65.69	---	---	---	---	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	20.000	0.061	3.600	---	---	27.10	65.76	---	---	---	---	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	21.000	0.064	6.250	---	---	20.30	67.32	---	---	---	---	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	22.000	0.061	3.520	---	---	27.30	65.23	---	---	---	---	---	1966	86734

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C

CONDITION HEAT TREAT	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	CRACK LENGTH INIT (in.) $2a_o$	CRACK LENGTH FINAL (in.) $2a_f$	GROSS STRESS ONSET (Ksi) σ_o	GROSS STRESS MAX (Ksi) σ_{Max}	K_{app} K_{app} (Ksi$\sqrt{in}$)	K_{app} K_{app} MEAN	K_{app} STAN DEV	K_C K_c (Ksi$\sqrt{in}$)	K_C K_c MEAN	K_C STAN DEV	DATE	REFER
BUCKLING OF CRACK EDGES RESTRAINED																			
		0.06			75.5	24.000	0.061	8.000	8.680	---	20.10	76.57			80.84			1966	86734
		0.06			75.5	24.000	0.061	8.000	8.660	---	16.80	64.00			67.46			1966	86734
		0.06			75.5	24.000	0.061	8.000	8.500	---	21.90	83.42			86.84			1966	86734
		0.06			75.5	24.000	0.062	8.000	8.360	---	18.40	70.09			72.15			1966	86734
		0.06			75.5	24.000	0.063	8.000	9.200	---	19.70	75.04			82.49			1966	86734
		0.06			75.5	24.000	0.064	8.000	8.700	---	17.60	67.04			70.90			1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	24.000	0.064	6.000	---	---	17.55	---	69.5	7.4	---	73.4	8.2	1966	86734
		0.06			75.5	24.000	0.064	6.002	---	---	20.00	---			---			1966	86734
		0.06			75.5	24.000	0.064	8.000	8.640	---	15.90	60.57			63.75			1966	86734
		0.06			75.5	24.000	0.064	8.000	8.900	---	18.90	72.00			77.33			1966	86734
		0.06			75.5	24.000	0.064	8.000	8.620	---	17.30	65.90			69.25			1966	86734
		0.06			75.5	24.000	0.064	8.000	8.540	---	15.80	60.19			62.85			1966	86734
		0.06			75.5	24.000	0.064	6.000	---	---	20.00	---			---			1966	86734
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
		0.08			85.0	12.000	0.078	1.500	---	---	22.74	35.25			---			1966	86734
T6	Sheet	0.08	-320	L-T	85.0	12.000	0.078	2.400	---	---	17.45	34.74	34.8	0.4	---	---	---	1966	86734
		0.08			85.0	12.000	0.078	4.000	---	---	12.76	34.37			---			1966	86734
		0.06			73.0	2.000	0.061	0.625	1.080	---	46.30	48.80*			74.16*			1973	86213
T6	Sheet	0.06	R.T.	L-T	73.0	2.000	0.061	0.625	1.060	---	46.30	48.80*	---	---	72.83*	---	---	1973	86213
		0.06			73.0	2.000	0.061	0.625	1.080	---	45.90	48.38*			73.52*			1973	86213

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C

CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K_{app}			K_C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) $2a_o$	FINAL (in.) $2a_f$	ONSET (Ksi) σ_o	MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	STAN DEV	K_c (Ksi$\sqrt{in}$)	K_c MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T6 Cont'd	Sheet Cont'd	0.06	R.T. Cont'd	L-T Cont'd	75.6	2.000	0.062	0.618	0.880	---	43.20	45.26*	Cont'd	Cont'd	57.86*	Cont'd	Cont'd	1973	86213
		0.06			75.6	2.000	0.062	0.622	0.870	---	44.40	46.70*			58.94*			1973	86213
		0.06			75.6	2.000	0.062	0.621	0.900	---	43.60	45.77*			59.45*			1973	86213
		0.06			75.2	2.000	0.063	0.622	0.750	---	46.70	49.12*			55.59*			1973	86213
		0.06			75.2	2.000	0.063	0.621	0.820	---	46.60	48.92*			59.14*			1973	86213
		0.06			73.0	2.000	0.064	0.625	0.800	---	44.20	46.59*			55.09*			1973	86213
		0.06			74.6	2.000	0.064	0.623	0.840	---	47.30	49.75*			61.12*			1973	86213
		0.06			74.6	2.000	0.064	0.622	0.830	---	50.00	52.59*			64.03*			1973	86213
		0.06			74.6	2.000	0.064	0.622	0.780	---	48.60	51.12*			59.47*			1973	86213
		0.06			76.1	2.000	0.064	0.624	0.850	---	43.90	46.27*			57.24*			1973	86213
		0.06			76.1	2.000	0.064	0.624	0.880	---	44.00	46.38*			58.93*			1973	86213
		0.06			72.8	2.000	0.065	0.626	0.890	---	44.50	47.00*			60.14*			1973	86213
		0.06			72.8	2.000	0.065	0.626	0.890	---	43.60	46.05*			58.92*			1973	86213
		0.06			74.6	2.000	0.065	0.626	0.820	---	48.30	51.01*			61.30*			1973	86213
T6	Sheet	0.12	R.T.	L-T	73.2	3.000	0.123	1.060	1.560	---	37.80	52.91	53.7	1.3	71.52*	---	---	1973	86213
		0.12			73.2	3.000	0.123	1.000	1.520	---	40.20	54.14*			74.26*			1973	86213
		0.12			73.2	3.000	0.123	1.060	1.550	---	37.00	51.79			69.59*			1973	86213
		0.12			76.6	3.000	0.123	1.000	1.490	---	40.60	54.68			73.67*			1973	86213
		0.12			76.6	3.000	0.123	1.000	1.490	---	40.50	54.54			73.49*			1973	86213

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C

CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K_{app}			K_C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) $2a_o$	FINAL (in.) $2a_f$	ONSET (Ksi) σ_o	MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	STAN DEV	K_c (Ksi$\sqrt{in}$)	K_c MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T6 Cont'd	Sheet Cont'd	0.12	R.T. Cont'd	L-T Cont'd	76.6	3.000	0.123	1.000	1.360	---	40.70	54.81	Cont'd	Cont'd	68.37*	Cont'd	Cont'd	1973	86213
		0.12			76.6	3.000	0.123	1.000	1.530	---	41.00	55.22*			76.19*			1973	86213
T6	Sheet	0.12	R.T.	L-T	78.2	3.000	0.129	1.140	1.460	---	34.10	50.18	50.1	0.1	60.78*	---	---	1973	86213
		0.12			78.2	3.000	0.129	1.160	1.460	---	33.60	50.05			59.89*			1973	86213
T6	Sheet	0.12	R.T.	L-T	75.8	4.000	0.125	1.607	2.590	---	34.30	60.62	61.1	0.7	95.41*	---	---	1973	86213
		0.12			76.3	4.000	0.125	1.578	2.487	---	35.30	61.60			93.20*			1973	86213
T6	Sheet	0.04	R.T.	L-T	69.0	6.000	0.039	0.500	---	---	55.10	49.04*	49.4	6.3	---	---	---	1966	86734
		0.04			69.0	6.000	0.039	0.850	---	---	46.40	54.29			---			1966	86734
		0.04			70.0	6.000	0.040	0.740	---	---	50.40	54.85*			---			1966	86734
		0.04			70.0	6.000	0.040	0.820	---	---	46.40	53.28			---			1966	86734
		0.04			70.0	6.000	0.040	0.920	---	---	44.20	53.92			---			1966	86734
		0.04			70.0	6.000	0.040	2.560	---	---	17.79	40.30			---			1966	86734
		0.04			70.0	6.000	0.040	0.500	---	---	50.80	45.21			---			1966	86734
T6	Sheet	0.16	R.T.	L-T	78.6	15.000	0.161	7.500	---	---	12.30	50.21	47.8	3.5	---	---	---	1966	86734
		0.16			78.6	15.000	0.163	7.500	---	---	11.10	45.31			---			1966	86734
T6	Sheet	0.06	R.T.	L-T	75.7	15.810	0.063	3.010	3.550	---	27.60	61.39	59.1	2.7	67.28	65.7	5.0	1973	86213
		0.06			75.7	15.810	0.063	5.980	6.190	---	16.80	56.56			57.96			1973	86213
		0.06			75.7	15.820	0.063	4.010	4.460	---	23.90	62.48			66.55			1973	86213
		0.06			75.7	15.820	0.063	1.000	1.500	---	46.50	58.42			71.78			1973	86213
		0.06			75.7	15.820	0.063	6.000	7.160	---	16.80	56.69			64.72			1973	86213

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C

CONDITION HEAT TREAT	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	CRACK LENGTH INIT (in.) $2a_o$	CRACK LENGTH FINAL (in.) $2a_f$	GROSS STRESS ONSET (Ksi) σ_o	GROSS STRESS MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	K_{app} STAN DEV	K_C (Ksi$\sqrt{in}$)	K_C MEAN	K_C STAN DEV	DATE	REFER
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T6	Sheet	0.08	R.T.	L-T	76.1	29.940	0.078	15.00	---	---	13.10	75.68	74.8	1.3	---	---	---	1966	86734
		0.08			76.1	30.020	0.079	15.00	---	---	12.80	73.87			---			1966	86734
T6	Sheet	0.10	R.T.	L-T	74.0	35.000	0.102	18.00	---	---	12.00	76.76	67.5	6.3	---	---	---	1956	84367
		0.10			74.0	35.000	0.102	17.90	---	---	9.80	62.36			---			1956	84367
		0.10			74.0	35.000	0.102	8.900	---	---	15.30	59.60			---			1956	84367
		0.10			74.0	35.000	0.102	1.270	---	---	46.20	65.31			---			1956	84367
		0.10			74.0	35.000	0.102	2.530	---	---	35.60	71.20			---			1956	84367
		0.10			74.0	35.000	0.102	6.000	---	---	22.30	69.73			---			1956	84367
T6	Plate	0.50	R.T.	L-T	73.5	15.020	0.518	7.500	9.920	---	13.20	53.85	53.1	1.1	73.08	64.1	12.7	1965	62310
		0.50			73.5	14.930	0.521	7.500	7.920	---	12.80	52.34			55.06			1965	62310
T6	Forging	0.16	R.T.	L-T	62.0	7.500	0.155	0.750	---	---	38.60	42.16	58.6	14.5	---	---	---	1966	86734
		0.16			62.0	7.500	0.156	2.400	---	---	33.60	69.69			---			1966	86734
		0.16			62.0	7.500	0.157	1.790	---	---	36.80	63.97			---			1966	86734
		0.16			62.0	7.500	0.158	2.680	---	---	37.30	83.18*			---			1966	86734
T6	Extru -sion	0.12	R.T.	L-T	80.1	16.000	0.125	4.840	5.140	---	20.10	58.77	58.4	0.9	61.04	60.2	1.4	1962	62309
		0.12			80.1	16.010	0.126	4.800	4.980	---	19.70	57.30			58.64			1962	62309
		0.12			80.1	16.010	0.126	4.840	5.100	---	20.20	59.06			61.04			1962	62309

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C

CONDITION HEAT TREAT	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	CRACK LENGTH INIT (in.) $2a_o$	CRACK LENGTH FINAL (in.) $2a_f$	GROSS STRESS ONSET (Ksi) σ_o	GROSS STRESS MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	K_{app} STAN DEV	K_c (Ksi$\sqrt{in}$)	K_c MEAN	K_c STAN DEV	DATE	REFER
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T6	Extru -sion	0.25	R.T.	L-T	77.2	16.010	0.251	4.800	5.500	---	19.20	55.85	56.0	0.1	60.93	59.9	1.4	1962	62309
		0.25			77.2	16.020	0.251	4.790	5.180	---	19.30	56.06			58.90			1962	62309
T6	Sheet	0.06	R.T.	T-L	71.8	2.000	0.061	0.625	1.040	---	42.80	45.11*	---	---	66.12*	---	---	1973	86213
		0.06			71.8	2.000	0.061	0.625	1.000	---	43.00	45.32*			64.09*			1973	86213
		0.06			71.8	2.000	0.061	0.625	1.000	---	44.30	46.69*			66.03*			1973	86213
		0.06			73.1	2.000	0.063	0.625	0.880	---	41.10	43.32*			55.05*			1973	86213
		0.06			73.1	2.000	0.063	0.622	0.880	---	40.80	42.92*			54.65*			1973	86213
		0.06			73.1	2.000	0.063	0.627	0.840	---	40.20	42.46*			51.95*			1973	86213
		0.06			73.2	2.000	0.064	0.628	0.870	---	47.80	50.59*			63.45*			1973	86213
		0.06			73.2	2.000	0.064	0.628	0.850	---	48.40	51.22*			63.11*			1973	86213
		0.06			71.4	2.000	0.065	0.628	0.910	---	41.90	44.34*			57.64*			1973	86213
		0.06			71.4	2.000	0.065	0.625	0.870	---	42.30	44.58*			56.15*			1973	86213
		0.06			72.7	2.000	0.065	0.622	0.730	---	50.40	53.01*			58.88*			1973	86213
		0.06			73.5	2.000	0.065	0.625	0.920	---	41.90	44.16*			58.16*			1973	86213
		0.06			73.5	2.000	0.065	0.625	0.810	---	41.10	43.32*			51.69*			1973	86213
		0.06			73.5	2.000	0.065	0.625	0.840	---	41.50	43.74*			53.63*			1973	86213
		0.06			74.2	2.000	0.065	0.621	1.060	---	47.00	49.34*			73.93*			1973	86213
		0.06			74.2	2.000	0.065	0.623	1.090	---	45.10	47.44*			72.89*			1973	86213
		0.06			74.4	2.000	0.065	0.628	0.920	---	44.40	46.99*			61.63*			1973	86213

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C

CONDITION HEAT TREAT	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	CRACK LENGTH INIT (in.) $2a_o$	CRACK LENGTH FINAL (in.) $2a_f$	GROSS STRESS ONSET (Ksi) σ_o	GROSS STRESS MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	K_{app} STAN DEV	K_c (Ksi$\sqrt{in}$)	K_c MEAN	K_c STAN DEV	DATE	REFER
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T6 Cont'd	Sheet Cont'd	0.06	R.T. Cont'd	T-L Cont'd	74.4	2.000	0.065	0.628	0.920	---	47.30	50.06*	Cont'd	Cont'd	65.65*	Cont'd	Cont'd	1973	86213
		0.06			70.9	2.000	0.066	0.625	0.920	---	43.40	45.74*			60.24*			1973	86213
		0.06			72.7	2.000	0.066	0.621	0.750	---	50.80	53.33*			60.47*			1973	86213
		0.06			73.7	2.000	0.066	0.629	0.910	---	43.80	46.35*			60.26*			1973	86213
		0.06			73.7	2.000	0.066	0.627	0.930	---	43.20	45.63*			60.50*			1973	86213
		0.06			74.2	2.000	0.066	0.624	1.000	---	45.10	47.54*			67.22*			1973	86213
		0.06			74.2	2.000	0.066	0.624	1.040	---	47.00	49.54*			72.61*			1973	86213
		0.06			69.3	2.000	0.067	0.623	1.000	---	43.50	45.76*			64.83*			1973	86213
		0.06			69.3	2.000	0.067	0.633	0.940	---	46.20	49.09*			65.28*			1973	86213
		0.06			70.9	2.000	0.067	0.623	1.010	---	43.40	45.65*			65.27*			1973	86213
		0.06			71.0	2.000	0.067	0.624	0.900	---	45.30	47.75*			61.77*			1973	86213
		0.06			71.0	2.000	0.067	0.623	0.950	---	44.90	47.23*			64.01*			1973	86213
		0.06			72.2	2.000	0.067	0.632	0.970	---	43.60	46.33*			63.27*			1973	86213
		0.06			72.2	2.000	0.067	0.623	1.210	---	46.00	48.39*			83.17*			1973	86213
		0.06			73.5	2.000	0.067	0.623	1.080	---	43.20	45.44*			69.19*			1973	86213
		0.06			73.5	2.000	0.067	0.624	1.090	---	45.20	47.64*			73.06*			1973	86213
T6	Sheet	0.12	R.T.	T-L	72.0	2.010	0.125	0.625	1.380	---	42.80	45.08*	42.0	0.4	91.65*	---	---	1973	86213
		0.12			74.2	2.010	0.125	0.624	1.170	---	39.60	41.71			68.72*			1973	86213
		0.12			74.2	2.010	0.125	0.624	1.210	---	40.20	42.34			72.44*			1973	86213
		0.12			72.0	2.020	0.125	0.624	1.000	---	43.40	45.69*			64.44*			1973	86213

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C

CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K_{app}			K_C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) $2a_o$	FINAL (in.) $2a_f$	ONSET (Ksi) σ_o	MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	STAN DEV	K_C (Ksi$\sqrt{in}$)	K_C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T6	Sheet	0.06	R.T.	T-L	71.8	3.000	0.061	1.050	---	---	36.50	50.76	50.1	0.8	---	---	---	1973	86213
		0.06			71.8	3.000	0.061	1.120	---	---	34.30	49.85			---			1973	86213
		0.06			71.8	3.000	0.061	1.080	---	---	34.80	49.33			---			1973	86213
		0.06			71.8	3.000	0.061	1.050	---	---	35.50	49.37			---			1973	86213
		0.06			71.8	3.000	0.061	1.060	---	---	35.70	49.97			---			1973	86213
		0.06			75.5	3.030	0.063	0.750	0.770	---	45.50	51.34			52.13*			1966	86734
T6	Sheet	0.12	R.T.	T-L	72.9	3.000	0.123	1.050	1.350	---	31.30	43.53	45.8	2.8	52.27	51.5	2.5	1973	86213
		0.12			72.9	3.000	0.123	1.050	1.380	---	33.90	47.15			57.63*			1973	86213
		0.12			72.9	3.000	0.123	1.110	1.410	---	32.90	47.52			56.93*			1973	86213
		0.12			72.9	3.000	0.123	1.070	1.320	---	32.50	45.78			53.31			1973	86213
		0.12			72.9	3.000	0.123	1.100	1.450	---	34.00	48.80			60.25*			1973	86213
		0.12			72.9	3.000	0.123	1.090	1.380	---	32.60	46.50			55.42*			1973	86213
		0.12			72.9	3.000	0.123	1.130	1.420	---	32.50	47.53			56.57*			1973	86213
		0.12			74.1	3.000	0.123	1.000	1.380	---	35.40	47.68			60.18*			1973	86213
		0.12			74.1	3.000	0.123	1.000	1.250	---	34.50	46.46			54.28			1973	86213
		0.12			74.1	3.000	0.123	1.000	1.240	---	34.10	45.92			53.32			1973	86213
		0.12			74.1	3.000	0.123	1.000	1.360	---	36.70	49.43			61.65*			1973	86213
		0.12			72.9	3.000	0.124	1.100	1.240	---	31.00	44.50			48.48			1973	86213
		0.12			72.9	3.000	0.124	1.120	1.340	---	31.80	46.22			52.79			1973	86213

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C

CONDITION HEAT TREAT	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	CRACK LENGTH INIT (in.) $2a_o$	CRACK LENGTH FINAL (in.) $2a_f$	GROSS STRESS ONSET (Ksi) σ_o	GROSS STRESS MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	K_{app} STAN DEV	K_C (Ksi$\sqrt{in}$)	K_C MEAN	K_C STAN DEV	DATE	REFER
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T6 Cont'd	Sheet Cont'd	0.12	R.T. Cont'd	T-L Cont'd	77.0	3.000	0.128	1.210	1.510	---	25.80	39.62	Cont'd	Cont'd	47.38	Cont'd	Cont'd	1973	86213
		0.12			77.0	3.000	0.128	1.110	1.460	---	28.10	40.59			50.09			1973	86213
T6	Sheet	0.06	R.T.	T-L	70.5	3.990	0.062	1.720	2.050	---	29.30	54.55	54.3	0.4	63.22*	---	---	1973	86213
		0.06			70.5	4.000	0.062	1.720	2.080	---	29.00	53.96			63.36*			1973	86213
T6	Sheet	0.12	R.T.	T-L	74.1	4.000	0.122	1.720	1.960	---	27.90	51.91	49.4	3.6	57.77	54.3	4.9	1973	86213
		0.12			74.1	4.000	0.122	1.710	1.890	---	25.30	46.86			50.78			1973	86213
T6	Sheet	0.06	R.T.	T-L	75.5	4.500	0.063	1.130	1.130	---	40.00	55.46	55.5	0.0	55.46	58.3	4.0	1966	86734
		0.06			75.5	4.500	0.063	1.130	1.330	---	40.00	55.46			61.14			1966	86734
T6	Sheet	0.04	R.T.	T-L	68.0	6.000	0.039	0.500	0.630	---	50.50	44.95*	45.2	4.9	50.58*	---	---	1966	86734
		0.04			68.0	6.000	0.039	0.500	0.650	---	49.00	43.61			49.87*			1966	86734
		0.04			68.0	6.000	0.039	0.726	---	---	43.20	46.55			---			1966	86734
		0.04			68.0	6.000	0.039	0.500	0.620	---	54.30	48.33*			53.94*			1966	86734
		0.04			68.0	6.000	0.039	1.180	---	---	36.70	51.19			---			1966	86734
		0.04			68.0	6.000	0.039	0.500	0.590	---	55.50	49.40*			53.75*			1966	86734
		0.04			69.0	6.000	0.039	0.500	0.810	---	52.20	46.46*			59.55*			1966	86734
		0.04			69.0	6.000	0.040	0.500	0.650	---	52.40	46.64*			53.33*			1966	86734
		0.04			69.0	6.000	0.040	2.520	---	---	17.64	39.48			---			1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	6.000	0.063	1.500	1.770	---	35.20	56.21	---	---	62.06	---	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	10.000	0.064	2.250	2.500	---	30.10	58.42	---	---	62.06	---	---	1966	86734

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C

CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K_{app}			K_C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) $2a_o$	FINAL (in.) $2a_f$	ONSET (Ksi) σ_o	MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	STAN DEV	K_C (Ksi$\sqrt{in}$)	K_C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T6	Sheet	0.06	R.T.	T-L	75.5	12.000	0.063	3.000	3.500	---	24.10	54.43	---	---	59.67	---	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	15.000	0.063	3.750	4.250	---	21.80	55.05	---	---	59.29	---	---	1966	86734
T6	Sheet	0.16	R.T.	T-L	76.5	15.000	0.164	7.500	8.080	---	8.90	36.33	35.5	1.2	38.94	37.8	1.6	1966	86734
		0.16			76.5	15.000	0.164	7.500	7.950	---	8.50	34.69			36.61			1966	86734
T6	Sheet	0.06	R.T.	T-L	72.9	15.810	0.063	3.010	4.000	---	25.70	57.17	54.8	1.9	67.09	62.2	3.4	1973	86213
		0.06			72.9	15.810	0.063	3.010	3.500	---	25.40	56.50			61.42			1973	86213
		0.06			72.9	15.810	0.063	5.980	6.960	---	15.80	53.20			59.52			1973	86213
		0.06			72.9	15.820	0.063	4.000	4.720	---	20.40	53.25			58.81			1973	86213
		0.06			72.9	15.820	0.063	1.000	1.400	---	42.90	53.90			63.93			1973	86213
T6	Sheet	0.06	R.T.	T-L	75.5	18.000	0.064	4.500	5.000	---	19.60	54.21	---	---	57.70	---	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	21.000	0.064	5.250	5.250	---	19.60	58.56	---	---	58.56	---	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	69.0	24.000	0.063	8.000	8.000	---	11.40	43.43	46.0	5.4	43.43	46.3	5.9	1966	86734
		0.06			69.0	24.000	0.063	8.000	8.000	---	11.30	43.04			43.04			1966	86734
		0.06			69.0	24.000	0.063	8.000	8.000	---	11.40	43.43			43.43			1966	86734
		0.06			69.0	24.000	0.063	8.000	8.000	---	11.25	42.85			42.85			1966	86734
		0.06			69.0	24.000	0.063	8.000	8.000	---	10.90	41.52			41.52			1966	86734
		0.06			75.5	24.000	0.064	6.000	6.360	---	16.71	53.37			55.23			1966	86734
		0.06			75.5	24.000	0.064	6.000	6.000	---	17.00	54.30			54.30			1966	86734
T6	Sheet	0.08	R.T.	T-L	73.3	29.990	0.081	15.00	15.050	---	9.70	56.00	---	---	56.17	---	---	1966	86734

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C																			
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K_{app}			K_C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) $2a_o$	FINAL (in.) $2a_f$	ONSET (Ksi) σ_o	MAX (Ksi) σ_{Max}	K_{app} (Ksi√in)	K_{app} MEAN	STAN DEV	K_C (Ksi√in)	K_C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T6	Plate	0.25	R.T.	T-L	76.0	15.000	0.246	7.500	8.500	---	13.00	53.06	50.4	3.7	59.88	57.2	3.8	1966	86734
		0.25			76.0	15.000	0.247	7.500	8.600	---	11.70	47.76			54.56			1966	86734
T6	Plate	0.50	R.T.	T-L	73.3	15.000	0.514	7.500	9.450	---	9.40	38.37	38.6	0.3	48.88	49.3	0.6	1966	86734
		0.50			73.3	15.000	0.514	7.500	9.500	---	9.50	38.78			49.73			1966	86734
BUCKLING OF CRACK EDGES RESTRAINED																			
T651	Sheet	0.12	R.T.	L-T	75.4	3.000	0.125	1.160	1.680	22.80	35.90	53.48	50.3	3.3	73.05*	---	---	1965	62310
		0.12			75.4	3.000	0.125	1.170	1.440	20.80	35.20	52.76			62.01*			1965	62310
		0.12			79.1	3.000	0.125	1.170	1.550	20.90	29.50	44.21			55.48			1965	62310
		0.12			79.1	3.000	0.125	1.200	1.460	22.60	33.20	50.68			59.18*			1965	62310
		0.12			80.6	3.000	0.125	1.120	1.510	21.30	34.20	49.70			62.80*			1965	62310
		0.12			80.6	3.000	0.125	1.110	1.390	19.70	35.30	50.99			60.37*			1965	62310
T651	Sheet	0.05	R.T.	L-T	78.3	7.990	0.048	1.610	1.950	---	32.20	52.53	57.5	3.8	58.52	63.4	5.5	1971	84340
		0.05			78.3	8.000	0.052	1.600	1.920	---	37.90	61.61			68.26			1971	84340
		0.05			78.3	8.000	0.052	1.620	1.790	---	34.00	55.65			58.84			1971	84340
		0.05			78.3	8.000	0.053	1.620	1.880	---	36.30	59.42			64.59			1971	84340
		0.05			78.3	8.000	0.053	1.610	2.110	---	37.50	61.17			71.36			1971	84340
		0.05			78.3	8.000	0.053	1.610	1.850	---	33.40	54.48			58.89			1971	84340

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C

CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K_{app}			K_C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) $2a_o$	FINAL (in.) $2a_f$	ONSET (Ksi) σ_o	MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	STAN DEV	K_c (Ksi$\sqrt{in}$)	K_c MEAN	STAN DEV		
BUCKLING OF CRACK EDGES RESTRAINED																			
T651	Sheet	0.10	R.T.	L-T	78.3	8.000	0.101	2.440	---	---	28.60	59.44	55.4	3.6	---	---	---	1971	84340
		0.10			78.3	8.000	0.101	0.800	---	---	45.40	51.21			---			1971	84340
		0.10			78.3	8.000	0.102	2.420	---	---	29.10	60.17			---			1971	84340
		0.10			78.3	8.000	0.103	0.810	---	---	46.50	52.79			---			1971	84340
		0.10			78.3	8.000	0.103	1.610	---	---	33.10	53.99			---			1971	84340
		0.10			78.3	8.000	0.104	1.610	---	---	33.50	54.65			---			1971	84340
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T651	Sheet	0.12	R.T.	L-T	79.1	3.000	0.121	1.200	1.460	20.70	33.20	50.68	49.2	3.5	59.18*	52.6	2.9	1973	86213
		0.12			75.4	3.000	0.122	1.170	1.440	20.50	35.20	52.76			62.01*			1973	86213
		0.12			75.4	3.000	0.123	1.000	1.640	21.10	40.40	54.41*			80.22*			1973	86213
		0.12			75.4	3.000	0.124	1.160	1.680	22.80	35.90	53.48			73.05*			1973	86213
		0.12			75.4	3.000	0.125	1.000	1.240	22.10	41.00	55.22*			64.11*			1973	86213
		0.12			79.1	3.000	0.125	1.000	1.240	---	33.80	45.52			52.85			1973	86213
		0.12			79.1	3.000	0.125	1.170	1.550	18.70	29.50	44.21			55.48			1973	86213
		0.12			79.1	3.000	0.125	1.000	1.200	---	32.50	43.77			49.61			1973	86213
		0.12			78.5	3.000	0.127	1.000	1.300	21.30	37.50	50.50			60.79*			1973	86213
		0.12			78.5	3.000	0.127	1.110	1.390	18.30	35.30	50.99			60.37*			1973	86213
		0.12			78.5	3.000	0.127	1.000	1.420	18.70	37.40	50.37			65.10*			1973	86213
		0.12			78.5	3.000	0.127	1.120	1.510	19.30	34.20	49.70			62.80*			1973	86213

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C																		
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K_{app}			K_C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) $2a_o$	FINAL (in.) $2a_f$	ONSET (Ksi) σ_o	MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	STAN DEV	K_C (Ksi$\sqrt{in}$)	K_C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T651	Plate	0.25	R.T.	L-T	77.3	3.000	0.252	1.000	1.500	---	36.80	49.56	46.3	2.9	67.18*	46.3	0.0	1973	86213
		0.25			77.3	3.000	0.253	1.370	1.510	---	25.20	42.58			46.28			1973	86213
		0.25			77.3	3.000	0.253	1.180	1.180	---	30.70	46.29			46.29			1973	86213
		0.25			77.3	3.000	0.253	1.000	1.490	---	34.70	46.73			62.97*			1973	86213
T651	Plate	0.25	R.T.	L-T	78.2	4.000	0.247	1.330	1.980	---	34.00	52.79	50.7	4.1	71.03*	61.3	4.7	1973	86213
		0.25			78.2	4.000	0.247	1.390	1.960	---	32.30	51.63			66.88*			1973	86213
		0.25			78.8	4.000	0.247	1.440	1.980	---	33.80	55.32			70.61*			1973	86213
		0.25			78.8	4.000	0.248	1.330	1.970	---	35.50	55.12			73.83*			1973	86213
		0.25			78.8	4.000	0.249	1.330	2.040	---	34.90	54.19			74.89*			1973	86213
		0.25			80.7	4.000	0.250	1.823	2.840	---	24.70	48.10			78.65*			1973	86213
		0.25			81.9	4.000	0.250	1.845	2.856	---	24.20	47.59			77.78*			1973	86213
		0.25			77.3	4.000	0.251	1.330	1.960	---	31.20	48.44			64.60			1973	86213
		0.25			77.3	4.000	0.253	1.450	2.110	---	26.20	43.09			58.02			1973	86213
T651	Plate	0.50	R.T.	L-T	78.0	4.000	0.499	1.877	2.814	---	21.20	42.29	43.5	1.6	66.51*	---	---	1973	86213
		0.50			79.2	4.000	0.500	1.637	2.786	---	24.90	44.61			76.89*			1973	86213
T651	Plate	0.31	R.T.	L-T	81.2	8.000	0.313	1.550	---	---	34.90	55.75	54.9	3.6	---	---	---	1971	84340
		0.31			81.2	7.970	0.314	0.740	---	---	47.10	51.05			---			1971	84340
		0.31			81.2	8.010	0.315	0.770	---	---	45.60	50.44			---			1971	84340
		0.31			81.2	7.950	0.316	2.310	---	---	28.80	57.90			---			1971	84340

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C																			
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K_{app}			K_C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) $2a_o$	FINAL (in.) $2a_f$	ONSET (Ksi) σ_o	MAX (Ksi) σ_{Max}	K_{app} (Ksi√in)	K_{app} MEAN	STAN DEV	K_c (Ksi√in)	K_c MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T651 Cont'd	Plate Cont'd	0.31	R.T. Cont'd	L-T Cont'd	81.2	8.010	0.316	1.590	---	---	34.00	55.08	Cont'd	Cont'd	---	Cont'd	Cont'd	1971	84340
		0.31			81.2	8.010	0.316	2.360	---	---	29.20	59.43			---			1971	84340
T651	Plate	0.75	R.T.	L-T	77.5	8.000	0.763	1.580	3.360	---	23.30	37.62	---	---	60.22	---	---	1971	84340
T651	Plate	1.00	R.T.	L-T	76.6	20.000	1.000	7.000	11.100	8.80	17.10	61.41	53.5	6.5	89.01	75.4	9.1	1965	62310
		1.00			76.6	20.000	1.000	7.000	10.690	8.50	17.40	62.48			87.25			1965	62310
		1.00			76.6	20.000	1.000	7.000	10.770	8.60	16.60	59.61			83.85			1965	62310
		1.00			76.6	20.000	1.000	7.000	10.590	8.70	18.00	64.64			89.45			1965	62310
		1.00			78.5	20.000	1.000	7.000	10.300	8.90	13.80	49.56			66.81			1965	62310
		1.00			78.5	20.000	1.000	7.000	10.650	8.90	14.20	50.99			70.95			1965	63210
		1.00			78.5	20.000	1.000	7.000	10.600	8.80	13.40	48.12			66.65			1965	62310
		1.00			78.5	20.000	1.000	7.000	10.850	8.80	13.90	49.92			70.72			1965	63210
		1.00			80.3	20.000	1.000	7.000	10.660	8.90	13.40	48.12			67.01			1965	62310
		1.00			80.3	20.000	1.000	7.000	11.320	9.10	13.40	48.12			71.18			1965	62310
		1.00			80.3	20.000	1.000	7.000	10.830	8.60	13.80	49.56			70.09			1965	62310
		1.00			80.3	20.000	1.000	7.000	11.170	8.80	13.70	49.20			71.78			1965	62310
T651	Sheet	0.12	R.T.	T-L	73.4	3.000	0.122	1.000	1.180	20.50	36.40	49.02	44.0	4.1	54.89*	48.7	1.2	1973	86213
		0.12			73.4	3.000	0.123	1.000	1.250	---	37.50	50.50			58.99*			1973	86213
		0.12			77.7	3.000	0.123	1.180	1.320	18.40	28.40	42.83			46.59			1973	86213
		0.12			73.4	3.000	0.124	1.120	1.300	20.20	35.30	51.30			57.22*			1973	86213

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C																		
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K_{app}			K_C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) $2a_o$	FINAL (in.) $2a_f$	ONSET (Ksi) σ_o	MAX (Ksi) σ_{Max}	K_{app} (Ksi√in)	K_{app} MEAN	STAN DEV	K_C (Ksi√in)	K_C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T651 Cont'd	Sheet Cont'd	0.12	R.T. Cont'd	T-L Cont'd	77.7	3.000	0.124	1.000	1.160	---	33.00	44.44	Cont'd	Cont'd	49.16	Cont'd	Cont'd	1973	86213
		0.12			77.7	3.000	0.124	1.160	1.440	14.20	27.00	40.22			47.56			1973	86213
		0.12			73.4	3.000	0.125	1.140	1.320	20.50	30.10	44.29			49.38			1973	86213
		0.12			77.7	3.000	0.125	1.000	1.290	---	30.00	40.40			48.34			1973	86213
		0.12			76.0	3.000	0.127	1.000	1.300	20.20	29.60	39.86			47.98			1973	86213
		0.12			76.0	3.000	0.127	1.100	1.380	17.60	28.70	41.19			48.79			1973	86213
		0.12			76.0	3.000	0.127	1.000	1.350	21.70	30.30	40.81			50.60			1973	86213
		0.12			76.0	3.000	0.127	1.090	1.300	18.40	30.60	43.65			49.60			1973	86213
T651	Plate	0.25	R.T.	T-L	74.2	3.000	0.252	1.000	1.380	---	25.50	34.34	34.2	1.1	43.35	43.9	3.3	1973	86213
		0.25			74.2	3.000	0.253	1.330	1.680	---	21.30	35.15			43.34			1973	86213
		0.25			74.2	3.000	0.253	1.010	1.220	---	25.70	34.84			39.71			1973	86213
		0.25			74.2	3.000	0.253	1.260	1.710	---	20.60	32.60			42.70			1973	86213
		0.25			74.2	3.000	0.253	1.040	1.330	---	24.10	33.31			39.77			1973	86213
		0.25			74.2	3.000	0.253	1.000	1.330	---	25.10	33.80			41.42			1973	86213
		0.25			74.2	3.000	0.253	1.090	1.390	---	23.90	34.09			40.87			1973	86213
		0.25			74.2	3.000	0.253	1.000	1.430	---	24.70	33.27			43.25			1973	86213
		0.25			74.2	3.000	0.253	1.000	1.520	---	24.60	33.13			45.44			1973	86213
		0.25			74.2	3.000	0.253	1.000	1.440	---	26.60	35.82			46.86			1973	86213
		0.25			74.2	3.000	0.253	1.130	1.420	---	22.50	32.90			39.17			1973	86213

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C

CONDITION HEAT TREAT	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	CRACK LENGTH INIT (in.) $2a_o$	CRACK LENGTH FINAL (in.) $2a_f$	GROSS STRESS ONSET (Ksi) σ_o	GROSS STRESS MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	K_{app} STAN DEV	K_C (Ksi$\sqrt{in}$)	K_C MEAN	K_C STAN DEV	DATE	REFER
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T651 Cont'd	Plate Cont'd	0.25	R.T. Cont'd	T-L Cont'd	74.2	3.000	0.253	1.240	1.660	---	23.50	36.75	Cont'd	Cont'd	47.23	Cont'd	Cont'd	1973	86213
		0.25			74.2	3.000	0.254	1.000	1.490	---	26.20	35.29			47.54			1973	86213
		0.25			74.2	3.000	0.254	1.000	1.550	---	25.50	34.34			47.96			1973	86213
		0.25			74.2	3.000	0.254	1.000	1.440	---	25.00	33.67			44.04			1973	86213
		0.25			74.2	3.000	0.254	1.000	1.610	---	25.50	34.34			49.72			1973	86213
T651	Plate	0.25	R.T.	T-L	72.0	4.000	0.247	1.460	2.180	---	25.60	42.30	39.6	1.5	58.52	50.3	4.6	1973	86213
		0.25			72.0	4.000	0.247	1.330	1.940	---	26.60	41.30			54.59			1973	86213
		0.25			75.4	4.000	0.249	1.440	2.050	---	25.70	42.06			55.40			1973	86213
		0.25			75.4	4.000	0.249	1.330	2.020	---	26.00	40.37			55.29			1973	86213
		0.25			75.4	4.000	0.251	1.330	1.840	---	25.50	39.59			50.05			1973	86213
		0.25			74.2	3.990	0.253	1.700	2.060	---	21.10	38.93			45.73			1973	86213
		0.25			74.2	4.000	0.253	1.330	1.850	---	24.20	37.57			47.71			1973	86213
		0.25			74.2	4.000	0.253	1.430	2.020	---	23.80	38.77			50.62			1973	86213
		0.25			74.2	4.000	0.253	1.420	1.820	---	24.20	39.24			47.08			1973	86213
		0.25			74.2	4.000	0.253	1.330	1.780	---	24.60	38.19			47.02			1973	86213
		0.25			74.2	4.000	0.253	1.390	1.720	---	24.10	38.52			44.84			1973	86213
		0.25			74.2	4.000	0.253	1.710	2.110	---	21.00	38.90			46.50			1973	86213
T651	Plate	0.50	R.T.	T-L	73.0	4.000	0.500	1.720	2.000	---	17.10	31.82	31.7	0.1	36.04	35.0	1.5	1973	86213
		0.50			73.0	4.000	0.500	1.710	1.860	---	17.10	31.67			33.87			1973	86213

• NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C

CONDITION HEAT TREAT	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	CRACK LENGTH INIT (in.) $2a_o$	CRACK LENGTH FINAL (in.) $2a_f$	GROSS STRESS ONSET (Ksi) σ_o	GROSS STRESS MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	K_{app} STAN DEV	K_C (Ksi$\sqrt{in}$)	K_C MEAN	K_C STAN DEV	DATE	REFER
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T651	Plate	0.50	R.T.	T-L	77.2	14.950	0.514	4.970	6.950	---	13.00	39.02	38.5	0.8	49.76	47.9	2.7	1973	86213
		0.50			77.2	14.980	0.514	5.000	6.550	---	12.60	37.95			45.96			1973	86213
T651	Plate	1.00	R.T.	T-L	73.6	20.000	1.000	7.000	9.150	---	8.80	31.60	30.4	1.8	38.45	35.2	3.2	1973	86213
		1.00			73.6	20.000	1.000	7.000	8.150	---	8.70	31.24			34.76			1973	86213
		1.00			73.6	20.000	1.000	7.000	9.000	---	9.40	33.76			40.53			1973	86213
		1.00			73.6	20.000	1.000	7.000	8.330	---	9.10	32.68			36.95			1973	86213
		1.00			76.0	20.000	1.000	7.000	9.070	---	8.70	31.24			37.75			1973	86213
		1.00			76.0	20.000	1.000	7.000	9.030	---	8.40	30.17			36.32			1973	86213
		1.00			76.0	20.000	1.000	7.000	8.670	---	8.10	29.09			33.91			1973	86213
		1.00			76.0	20.000	1.000	7.000	8.580	---	8.60	30.88			35.72			1973	86213
		1.00			77.4	20.000	1.000	7.000	7.650	---	8.00	28.73			30.53			1973	86213
		1.00			77.4	20.000	1.000	7.000	8.250	---	7.70	27.65			31.04			1973	86213
		1.00			77.4	20.000	1.000	7.000	9.250	---	8.10	29.09			35.71			1973	86213
		1.00			77.4	20.000	1.000	7.000	7.470	---	8.10	29.09			30.40			1973	86213
T73	Sheet	0.06	R.T.	L-T	61.0	2.010	0.061	0.625	0.800	---	40.60	42.76*	---	---	50.54*	---	---	1973	86213
		0.06			60.0	2.000	0.062	0.625	1.280	---	41.60	43.85*			80.58*			1973	86213
		0.06			60.0	2.000	0.062	0.625	1.240	---	42.00	44.27*			78.18*			1973	86213
		0.06			60.0	2.000	0.062	0.625	1.400	---	41.60	43.85*			91.56*			1973	86213
		0.06			61.0	2.010	0.062	0.623	0.830	---	40.30	42.36*			51.55*			1973	86213

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C

CONDITION HEAT TREAT	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	CRACK LENGTH INIT (in.) $2a_o$	CRACK LENGTH FINAL (in.) $2a_f$	GROSS STRESS ONSET (Ksi) σ_o	GROSS STRESS MAX (Ksi) σ_{Max}	K_{app} (Ksi√in)	K_{app} MEAN	K_{app} STAN DEV	K_c (Ksi√in)	K_c MEAN	K_c STAN DEV	DATE	REFER
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T73 Cont'd	Sheet Cont'd	0.06	R.T. Cont'd	L-T Cont'd	62.5	2.000	0.065	0.624	0.940	---	42.30	44.58*	Cont'd	Cont'd	59.77*	Cont'd	Cont'd	1973	86213
		0.06			62.5	2.000	0.065	0.622	0.920	---	42.00	44.18*			58.30*			1973	86213
		0.06			57.8	2.000	0.066	0.626	0.950	---	39.60	41.82*			56.45*			1973	86213
		0.06			57.8	2.000	0.066	0.628	1.070	---	39.90	42.22*			63.33*			1973	86213
T73	Sheet	0.06	88	L-T	60.0	16.000	0.063	4.000	4.800	13.90	29.40	76.67	76.4	0.4	85.52	82.9	3.7	1973	86213
		0.06			60.0	16.000	0.063	4.000	4.380	14.20	29.20	76.15			80.34			1973	86213
T73	Sheet	0.06	R.T.	T-L	60.9	2.010	0.061	0.625	0.900	---	37.70	39.71*	---	---	51.33*	---	---	1973	86213
		0.06			59.0	2.000	0.062	0.625	1.260	---	40.30	42.48*			76.52*			1973	86213
		0.06			59.0	2.000	0.062	0.625	1.210	---	40.10	42.27*			72.50*			1973	86213
		0.06			59.0	2.000	0.062	0.625	1.260	---	40.30	42.48*			76.52*			1973	86213
		0.06			60.9	2.000	0.062	0.626	0.820	---	38.60	40.77*			48.99*			1973	86213
		0.06			60.9	2.010	0.062	0.627	0.860	---	39.20	41.37*			51.50*			1973	86213
		0.06			58.3	2.000	0.065	0.627	0.970	---	39.60	41.82*			57.46*			1973	86213
		0.06			58.3	2.000	0.065	0.628	0.980	---	39.00	41.27*			57.10*			1973	86213
		0.06			63.8	2.000	0.066	0.627	0.920	---	40.90	43.20*			56.77*			1973	86213
		0.06			63.8	2.000	0.066	0.626	0.900	---	40.90	43.20*			55.77*			1973	86213
T73	Sheet	0.06	R.T.	T-L	59.0	3.000	0.062	1.050	---	---	36.20	50.35*	---	---	---	---	---	1973	86213
		0.06			59.0	3.000	0.062	1.070	---	---	35.30	49.72*			---			1973	86213
		0.06			59.0	3.000	0.062	1.060	---	---	35.70	49.97*			---			1973	86213

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C

CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K_{app}			K_C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) $2a_o$	FINAL (in.) $2a_f$	ONSET (Ksi) σ_o	MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	STAN DEV	K_c (Ksi$\sqrt{in}$)	K_c MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
		0.06			59.0	3.000	0.062	1.060	---	---	35.80	50.11*			---			1973	86213
T73 Cont'd	Sheet Cont'd	0.06	R.T. Cont'd	T-L Cont'd	59.0	3.000	0.062	1.060	---	---	35.80	50.11*	Cont'd	Cont'd	---	Cont'd	Cont'd	1973	86213
		0.06			59.0	3.000	0.062	1.050	---	---	35.80	49.79*			---			1973	86213
BUCKLING OF CRACK EDGES RESTRAINED																			
		0.05			69.1	8.000	0.053	1.610	2.310	---	42.40	69.16			85.19*			1971	84340
		0.05			69.1	7.990	0.054	1.610	2.110	---	46.10	75.20*			87.73*			1971	84340
		0.05			69.1	7.990	0.054	1.610	2.150	---	40.60	66.23			78.13*			1971	84340
		0.05			69.1	7.990	0.054	1.610	2.210	---	46.60	76.02*			91.16*			1971	84340
		0.05			69.1	7.990	0.055	1.620	2.160	---	45.20	73.99*			87.22*			1971	84340
		0.05			69.1	7.990	0.055	1.640	2.060	---	42.90	70.70			80.49*			1971	84340
		0.06			58.2	8.000	0.060	3.170	4.200	16.50	27.70	68.58			86.36*			1970	79089
T7351	Sheet	0.06	R.T.	L-T	58.2	8.000	0.060	6.400	6.600	6.00	9.10	51.90	60.7	11.9	56.24*	---	---	1970	79089
		0.06			58.2	8.000	0.061	2.350	3.550	20.50	33.80	68.63*			91.15*			1970	79089
		0.06			58.2	8.000	0.061	3.970	5.000	16.40	23.80	70.47*			89.49*			1970	79089
		0.06			58.2	8.000	0.061	4.760	5.620	10.30	18.40	65.27			81.45*			1970	79089
		0.06			58.2	8.000	0.061	5.550	6.080	11.30	13.30	57.73			67.74*			1970	79089
		0.06			58.2	8.010	0.061	7.280	7.380	3.00	4.00	35.81			38.79*			1970	79089
		0.06			58.2	8.000	0.062	0.780	1.400	30.20	45.90	51.11*			69.38*			1970	79089
		0.06			58.2	8.000	0.062	1.600	1.950	24.20	38.70	62.91*			70.32*			1970	79089

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C

CONDITION HEAT TREAT	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	CRACK LENGTH INIT (in.) $2a_o$	CRACK LENGTH FINAL (in.) $2a_f$	GROSS STRESS ONSET (Ksi) σ_o	GROSS STRESS MAX (Ksi) σ_{Max}	K_{app} (Ksi√in)	K_{app} MEAN	K_{app} STAN DEV	K_C (Ksi√in)	K_C MEAN	K_C STAN DEV	DATE	REFER
BUCKLING OF CRACK EDGES RESTRAINED																			
T7351	Sheet	0.10	R.T.	L-T	62.9	8.000	0.101	0.820	---	---	57.60	65.80*	---	---	---	---	---	1971	84340
		0.10			62.9	8.000	0.101	2.410	---	---	37.10	76.51*			---			1971	84340
		0.10			62.9	8.000	0.104	2.420	---	---	38.90	80.43*			---			1971	84340
		0.10			62.9	8.010	0.104	1.620	---	---	47.10	77.09*			---			1971	84340
		0.10			62.9	8.010	0.104	0.820	---	---	54.10	61.80*			---			1971	84340
		0.10			62.9	8.010	0.105	1.620	---	---	44.50	72.83*			---			1971	84340
T7351	Plate	0.31	R.T.	L-T	68.7	2.000	0.315	0.390	0.670	---	52.80	42.32*	---	---	58.25*	---	---	1971	84340
		0.31			68.7	2.000	0.319	0.430	0.750	---	51.00	43.15*			60.71*			1971	84340
T7351	Plate	0.25	R.T.	L-T	60.5	8.000	0.253	2.860	3.800	---	30.60	70.50	59.7	13.2	87.24*	---	---	1970	79089
		0.25			60.5	8.020	0.253	6.420	6.600	---	8.50	48.62			52.23			1970	79089
		0.25			60.5	8.040	0.254	0.770	---	---	46.80	51.76*			---			1970	79089
		0.25			60.5	8.030	0.255	5.650	6.000	---	13.60	60.47			67.14*			1970	79089
		0.25			60.5	8.030	0.255	3.230	4.450	---	28.20	70.71			92.87*			1970	79089
		0.25			60.5	8.040	0.255	7.660	---	---	1.90	24.20			---			1970	79089
		0.25			60.5	8.050	0.255	5.230	5.850	---	15.50	61.44			72.83*			1970	79089
		0.25			60.5	8.030	0.256	4.870	5.600	---	17.80	64.67			78.04*			1970	79089
		0.25			60.5	8.040	0.256	4.350	5.100	---	20.80	66.92			79.87*			1970	79089
		0.25			60.5	8.030	0.257	3.650	4.900	---	25.20	69.41			92.22*			1970	79089
		0.25			60.5	8.030	0.257	6.690	7.000	---	7.40	47.12			54.85*			1970	79089

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C

CONDITION HEAT TREAT	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	CRACK LENGTH INIT (in.) $2a_o$	CRACK LENGTH FINAL (in.) $2a_f$	GROSS STRESS ONSET (Ksi) σ_o	GROSS STRESS MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	K_{app} STAN DEV	K_C (Ksi$\sqrt{in}$)	K_C MEAN	K_C STAN DEV	DATE	REFER
BUCKLING OF CRACK EDGES RESTRAINED																			
T7351 Cont'd	Plate Cont'd	0.25	R.T. Cont'd	L-T Cont'd	60.5	8.040	0.257	1.660	2.900	---	39.30	65.18*	Cont'd	Cont'd	91.32*	Cont'd	Cont'd	1970	79089
		0.25			60.5	8.040	0.258	2.000	3.000	---	36.30	66.91			86.33*			1970	79089
		0.25			60.5	8.040	0.258	1.220	---	---	43.40	60.95*			---			1970	79089
		0.25			60.5	8.040	0.258	2.470	3.400	---	33.70	70.53*			87.77*			1970	79089
		0.25			60.5	8.040	0.259	4.010	5.050	---	23.00	68.58			87.23*			1970	79089
		0.25			60.5	8.020	0.260	6.000	---	---	11.50	56.87			---			1970	79089
		0.25			60.5	8.030	0.260	7.270	7.300	---	4.70	41.27*			42.19*			1970	79089
T7351	Plate	0.31	R.T.	L-T	68.7	7.950	0.312	0.760	---	---	51.20	56.26*	68.8	1.4	---	---	---	1971	84340
		0.31			68.7	8.000	0.313	2.370	---	---	33.90	69.19			---			1971	84340
		0.31			68.7	8.000	0.314	1.560	---	---	41.60	66.69			---			1971	84340
		0.31			68.7	7.950	0.316	0.770	---	---	50.70	56.08*			---			1971	84340
		0.31			68.7	8.000	0.316	1.590	---	---	42.70	69.17			---			1971	84340
		0.31			68.7	8.000	0.317	2.370	---	---	34.30	70.01			---			1971	84340
T7351	Plate	0.25	R.T.	L-T	60.5	15.920	0.248	11.45	13.500	---	11.40	74.00	77.2	14.2	107.94*	---	---	1970	79089
		0.25			60.5	15.900	0.251	8.150	10.200	---	19.70	84.67			107.93*			1970	79089
		0.25			60.5	15.880	0.252	14.50	14.700	---	3.70	47.87			52.10*			1970	79089
		0.25			60.5	15.900	0.252	1.580	---	---	45.30	71.80*			---			1970	79089
		0.25			60.5	15.910	0.252	4.840	7.000	---	31.30	91.59			118.24*			1970	79089
		0.25			60.5	15.910	0.252	12.93	---	---	8.00	66.95			---			1970	79089

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C

CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K_{app}			K_C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) $2a_o$	FINAL (in.) $2a_f$	ONSET (Ksi) σ_o	MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	STAN DEV	K_c (Ksi$\sqrt{in}$)	K_c MEAN	STAN DEV		
BUCKLING OF CRACK EDGES RESTRAINED																			
T7351 Cont'd	Plate Cont'd	0.25	R.T. Cont'd	L-T Cont'd	60.5	15.950	0.252	3.160	---	---	35.80	81.75	Cont'd	Cont'd	---	Cont'd	Cont'd	1970	79089
		0.25			60.5	16.020	0.252	6.470	8.600	---	24.80	88.09			111.77*			1970	79089
		0.25			60.5	15.910	0.253	9.560	10.850	---	16.30	82.47			97.22*			1970	79089
T7351	Plate	0.31	R.T.	L-T	68.7	22.000	0.313	4.430	5.450	---	31.40	84.96	---	---	95.51	---	---	1971	84340
T7351	Plate	0.31	R.T.	L-T	68.7	32.000	0.311	6.420	10.180	---	28.60	93.15	---	---	122.07	---	---	1971	84340
T7351	Plate	0.25	R.T.	L-T	60.5	36.120	0.253	28.83	33.100	4.50	7.80	94.01	---	---	155.42*	---	---	1970	79089
T7351	Plate	0.25	R.T.	L-T	60.5	36.120	0.259	7.350	9.250	17.40	25.90	90.32	92.5	3.1	102.92	119.9	24.0	1970	79089
		0.25			60.5	36.120	0.259	18.00	24.880	10.20	15.00	94.73			136.84			1970	79089
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T7351	Sheet	0.20	R.T.	L-T	69.1	8.000	0.200	1.630	2.400	---	44.20	72.59*	---	---	90.92*	---	---	1971	84340
		0.20			69.1	7.990	0.201	1.640	2.350	---	39.20	64.60			79.60*			1971	84340
T7351	Plate	0.60	R.T.	L-T	66.0	2.000	0.597	0.330	---	---	57.20	41.89*	---	---	---	---	---	1971	84340
		0.60			66.0	2.000	0.602	0.310	---	---	54.70	38.75*			---			1971	84340
T7351	Plate	0.25	R.T.	L-T	64.6	3.000	0.113	1.000	1.800	19.50	39.40	53.06*	---	---	86.41*	---	---	1973	86213
T7351	Plate	0.25	R.T.	L-T	60.6	3.000	0.124	1.070	1.960	16.40	35.60	50.15*	---	---	86.79*	---	---	1973	86213
		0.25			57.5	3.000	0.125	1.070	1.740	18.00	36.00	50.71*			76.02*			1973	86213
		0.25			57.5	3.000	0.125	1.080	2.000	17.80	33.90	48.05*			84.97*			1973	86213
		0.25			57.5	3.000	0.125	1.000	1.670	17.40	37.80	50.91*			76.44*			1973	86213
		0.25			57.5	3.000	0.125	1.000	2.000	18.60	35.80	48.21*			89.74*			1973	86213

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C																		
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K_{app}			K_C		DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) $2a_o$	FINAL (in.) $2a_f$	ONSET (Ksi) σ_o	MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	STAN DEV	K_C (Ksi$\sqrt{in}$)	K_C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																		
T7351 Cont'd	Plate Cont'd	0.25	R.T. Cont'd	L-T Cont'd	60.6	3.000	0.125	1.140	1.800	18.30	35.10	51.65*	Cont'd	Cont'd	76.98*	Cont'd	Cont'd	1973	86213
		0.25			60.6	3.000	0.125	1.000	1.620	16.60	38.60	51.99*			75.72*			1973	86213
		0.25			64.6	3.000	0.125	1.000	1.660	19.50	40.30	54.27*			81.00*			1973	86213
		0.25			64.6	3.000	0.125	1.090	1.770	19.50	37.30	53.20*			80.27*			1973	86213
		0.25			60.6	3.000	0.126	1.000	1.740	19.20	37.80	50.91*			79.82*			1973	86213
		0.25			64.6	3.000	0.127	1.090	1.810	16.50	38.50	54.92*			84.98*			1973	86213
T7351	Plate	0.50	R.T.	L-T	70.6	8.000	0.458	1.630	2.300	---	40.50	66.52	---	---	81.16*	---	---	1971	84340
T7351	Plate	0.50	R.T.	L-T	62.1	7.960	0.501	2.430	3.250	18.60	30.20	62.64	59.9	8.4	76.23*	61.5	10.5	1970	79089
		0.50			62.1	8.000	0.501	6.900	6.950	5.10	6.20	44.09			45.28			1970	79089
		0.50			62.1	8.010	0.501	2.860	3.420	15.00	27.20	62.65			71.23			1970	79089
		0.50			62.1	8.000	0.502	5.630	5.900	8.10	12.10	53.72			58.19			1970	79089
		0.50			62.1	8.010	0.502	3.140	4.150	16.50	27.30	67.10			84.11*			1970	79089
		0.50			62.1	8.010	0.502	4.470	4.600	11.70	19.00	62.94			64.86			1970	79089
		0.50			62.1	8.000	0.503	5.250	5.420	8.70	14.30	57.27			59.90			1970	79089
		0.50			62.1	8.010	0.504	1.630	---	20.30	35.50	58.30			---			1970	79089
		0.50			62.1	8.110	0.505	2.400	3.450	16.70	32.20	66.13			84.61*			1970	79089
		0.50			62.1	8.020	0.506	3.170	3.850	15.00	27.20	67.30			78.35*			1970	79089
		0.50			62.1	8.110	0.506	1.220	---	33.10	43.40	60.93*			---			1970	79089
		0.50			62.1	8.110	0.506	4.840	5.500	9.80	17.70	63.44			74.76*			1970	79089

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C

CONDITION HEAT TREAT	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	CRACK LENGTH INIT (in.) $2a_o$	CRACK LENGTH FINAL (in.) $2a_f$	GROSS STRESS ONSET (Ksi) σ_o	GROSS STRESS MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	K_{app} STAN DEV	K_C (Ksi$\sqrt{in}$)	K_C MEAN	K_C STAN DEV	DATE	REFER
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
		0.50			62.1	8.110	0.506	1.650	2.200	21.30	39.20	64.77			76.37*			1970	79089
		0.50			62.1	8.020	0.507	0.820	---	---	46.10	52.66*			---			1970	79089
		0.50			62.1	8.020	0.507	7.340	---	2.60	3.90	36.34			---			1970	79089
		0.50			62.1	8.100	0.507	4.070	5.080	16.10	21.20	63.87			80.55*			1970	79089
		0.50			62.1	8.110	0.507	3.270	3.900	15.40	25.20	63.61			73.10			1970	79089
		0.50			62.1	8.130	0.507	2.030	---	24.80	35.00	65.02			---			1970	79089
T7351 Cont'd	Plate Cont'd	0.50	R.T. Cont'd	L-T Cont'd	62.1	8.130	0.507	4.750	4.950	10.80	16.90	59.22	Cont'd	Cont'd	62.07	Cont'd	Cont'd	1970	79089
		0.50			62.1	8.090	0.508	3.980	4.500	15.60	23.40	69.15			77.65*			1970	79089
		0.50			62.1	8.100	0.508	3.150	5.000	16.80	27.20	66.85			101.36*			1970	79089
		0.50			62.1	8.110	0.508	3.610	4.200	13.40	23.40	63.69			72.52			1970	79089
		0.50			62.1	8.120	0.508	6.450	6.500	5.80	8.00	45.19			46.04			1970	79089
		0.50			62.1	8.120	0.508	6.070	---	6.90	10.40	51.67			---			1970	79089
		0.50			62.1	8.140	0.508	1.610	2.450	26.00	38.90	63.40			80.88*			1970	79089
		0.60			66.0	7.990	0.599	2.390	---	---	29.50	60.53			---			1971	84340
		0.60			66.0	8.000	0.599	1.590	---	---	38.20	61.88			---			1971	84340
T7351	Plate	0.60	R.T.	L-T	66.0	7.990	0.600	2.420	---	---	29.50	61.00			---			1971	84340
		0.60			66.0	8.000	0.602	0.820	---	---	46.40	53.00	57.9	4.6	---	---	---	1971	84340
		0.60			66.0	8.000	0.602	1.610	---	---	36.80	60.03			---			1971	84340
		0.60			66.0	8.000	0.605	0.790	---	---	45.60	51.10			---			1971	84340

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C

CONDITION HEAT TREAT	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	CRACK LENGTH INIT (in.) $2a_o$	CRACK LENGTH FINAL (in.) $2a_f$	GROSS STRESS ONSET (Ksi) σ_o	GROSS STRESS MAX (Ksi) σ_{Max}	K_{app} $(Ksi\sqrt{in})$	K_{app} MEAN	K_{app} STAN DEV	K_c $(Ksi\sqrt{in})$	K_c MEAN	K_C STAN DEV	DATE	REFER
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T7351	Plate	1.00	R.T.	L-T	61.1	8.070	1.006	1.500	1.700	21.10	24.90	39.06	43.1	5.2	41.84	45.9	5.3	1970	79089
		1.00			61.1	8.060	1.009	6.310	6.470	7.10	7.60	41.37			43.88			1970	79089
		1.00			61.1	8.030	1.010	4.010	4.270	14.70	16.40	48.92			51.85			1970	79089
T7351	Plate	0.75	R.T.	L-T	68.3	9.000	0.764	1.610	2.350	---	28.10	45.59	---	---	56.38	---	---	1971	84340
T7351	Plate	0.50	R.T.	L-T	62.1	16.100	0.498	3.100	6.340	18.70	35.50	80.18	73.5	9.5	124.12*	---	---	1970	79089
		0.50			62.1	16.100	0.503	8.250	10.160	11.00	19.90	86.04			107.43*			1970	79089
		0.50			62.1	16.090	0.504	6.350	11.090	15.40	21.50	75.27			131.03*			1970	79089
		0.50			62.1	16.100	0.504	4.800	9.840	15.70	27.40	79.65			142.25*			1970	79089
		0.50			62.1	16.100	0.505	1.580	5.730	22.80	41.00	64.98			133.59*			1970	79089
		0.50			62.1	16.090	0.506	12.90	13.160	5.60	8.30	67.50			71.04			1970	79089
		0.50			62.1	16.090	0.506	14.20	15.570	3.40	5.20	57.34			114.16*			1970	79089
		0.50			62.1	16.120	0.508	11.20	13.100	7.90	12.50	77.20			105.28*			1970	79089
T7351	Plate	1.00	R.T.	L-T	61.1	16.050	0.995	8.040	8.090	9.90	14.00	59.21	---	---	59.54	---	---	1970	79089
T7351	Plate	1.00	R.T.	L-T	61.1	16.050	1.004	11.07	11.070	6.80	7.10	43.26	45.8	7.9	43.26	51.6	6.2	1970	79089
		1.00			61.1	16.030	1.007	4.730	5.200	12.70	17.30	49.86			52.92			1970	79089
		1.00			61.1	16.030	1.007	3.300	4.500	14.60	21.40	50.04			59.83			1970	79089
		1.00			61.1	16.030	1.008	1.800	---	19.20	25.90	43.89			---			1970	79089
		1.00			61.1	16.090	1.012	9.600	9.600	9.10	10.50	52.99			52.99			1970	79089
		1.00			61.1	16.050	1.014	12.75	13.150	4.20	5.30	42.10			45.52			1970	79089

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C

CONDITION HEAT TREAT	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	CRACK LENGTH INIT (in.) $2a_o$	CRACK LENGTH FINAL (in.) $2a_f$	GROSS STRESS ONSET (Ksi) σ_o	GROSS STRESS MAX (Ksi) σ_{Max}	K_{app} (Ksi√in)	K_{app} MEAN	K_{app} STAN DEV	K_C (Ksi√in)	K_C MEAN	K_C STAN DEV	DATE	REFER
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T7351 Cont'd	Plate Cont'd	1.00	R.T. Cont'd	L-T Cont'd	61.1	16.050	1.016	14.42	---	2.10	2.50	29.85	Cont'd	Cont'd	---	Cont'd	Cont'd	1970	79089
		1.00			61.1	16.030	1.017	6.430	6.600	10.70	15.30	54.09			55.15			1970	79089
T7351	Plate	1.00	R.T.	L-T	57.5	20.000	1.000	7.000	10.000	11.00	24.20	86.90	77.9	7.3	114.06*	96.7	10.9	---	57210
		1.00			57.5	20.000	1.000	7.000	10.790	11.60	23.70	85.11			119.93*			---	57210
		1.00			57.5	20.000	1.000	7.000	9.950	10.90	23.60	84.75			110.74*			---	57210
		1.00			57.5	20.000	1.000	7.000	10.000	10.70	23.40	84.03			110.29*			---	57210
		1.00			60.6	20.000	1.000	7.000	9.970	10.80	23.80	85.47			111.87			---	57210
		1.00			60.6	20.000	1.000	7.000	9.970	10.80	23.30	83.67			109.52			---	57210
		1.00			60.6	20.000	1.000	7.000	10.250	10.60	23.40	84.03			112.78			---	57210
		1.00			60.6	20.000	1.000	7.000	9.820	11.20	23.80	85.47			110.39			---	57210
		1.00			64.6	20.000	1.000	7.000	9.240	10.20	19.40	69.67			85.46			---	57210
		1.00			64.6	20.000	1.000	7.000	9.240	---	19.40	69.67			85.46			1973	86213
		1.00			64.6	20.000	1.000	7.000	9.800	10.00	19.80	71.10			91.67			---	57210
		1.00			64.6	20.000	1.000	7.000	9.670	---	19.60	70.39			89.70			1973	86213
		1.00			64.6	20.000	1.000	7.000	9.450	---	20.30	72.90			91.11			1973	86213
		1.00			64.6	20.000	1.000	7.000	9.800	---	19.70	70.74			91.21			1973	86213
		1.00			64.6	20.000	1.000	7.000	9.670	10.40	19.60	70.39			89.70			---	57210
		1.00			64.6	20.000	1.000	7.000	9.450	10.40	20.30	72.90			91.11			---	57210

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C

CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K_{app}			K_C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) $2a_o$	FINAL (in.) $2a_f$	ONSET (Ksi) σ_o	MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	STAN DEV	K_C (Ksi$\sqrt{in}$)	K_C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T7351	Plate	0.60	R.T.	L-T	66.0	32.000	0.615	6.400	---	---	23.60	76.73	73.0	5.3	---	---	---	1971	84340
		0.60			66.0	32.000	0.617	6.450	---	---	21.20	69.22			---			1971	84340
T7351	Plate	0.50	R.T.	L-T	62.1	36.050	0.479	18.14	26.350	7.20	8.50	54.09	---	---	85.38	---	---	1970	79089
T7351	Plate	0.50	R.T.	L-T	62.1	36.010	0.486	28.80	---	3.10	3.70	44.74	---	---	---	---	---	1970	79089
T7351	Plate	1.00	R.T.	L-T	61.1	36.190	1.011	28.90	31.160	3.70	4.20	50.73	---	---	63.14	---	---	1970	79089
T7351	Plate	1.00	R.T.	L-T	61.1	36.130	1.017	17.00	19.160	7.90	10.20	61.31	---	---	68.23	---	---	1970	79089
T7351	Plate	1.00	R.T.	L-T	61.1	36.120	1.026	7.110	9.480	---	17.00	58.21	---	---	68.54	---	---	1970	79089
T7351	Sheet	0.12	R.T.	T-L	63.6	3.000	0.114	1.080	1.460	15.10	34.20	48.48*	---	---	60.96*	---	---	1973	86213
T7351	Sheet	0.12	R.T.	T-L	54.0	3.000	0.124	1.000	1.720	17.50	33.60	45.25*	---	---	70.08*	---	---	1973	86213
		0.12			55.1	3.000	0.124	1.000	1.500	17.60	34.70	46.73*			63.34*			1973	86213
		0.12			55.1	3.000	0.124	1.120	1.630	15.30	32.30	46.94*			63.75*			1973	86213
		0.12			55.1	3.000	0.124	1.000	1.590	15.10	35.30	47.54*			68.00*			1973	86213
		0.12			54.0	3.000	0.125	1.000	1.840	16.70	32.90	44.31*			74.04*			1973	86213
		0.12			54.0	3.000	0.125	1.090	1.720	14.90	31.80	45.36*			66.32*			1973	86213
		0.12			54.0	3.000	0.125	1.100	1.700	18.00	32.40	46.51*			66.74*			1973	86213
		0.12			55.1	3.000	0.125	1.160	1.600	15.10	31.50	46.92*			61.05*			1973	86213
		0.12			63.6	3.000	0.126	1.090	1.480	16.70	34.20	48.78*			61.69*			1973	86213
		0.12			63.6	3.000	0.127	1.000	1.420	15.80	35.10	47.27*			61.10*			1973	86213
		0.12			63.6	3.000	0.127	1.000	1.410	17.30	35.30	47.54*			61.09*			1973	86213

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K_C

CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K_{app}			K_C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) $2a_o$	FINAL (in.) $2a_f$	ONSET (Ksi) σ_o	MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	STAN DEV	K_c (Ksi$\sqrt{in}$)	K_c MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T7351	Plate	0.25	R.T.	T-L	59.4	3.000	0.252	1.170	1.620	---	30.80	46.16*	---	---	60.42*	---	---	1973	86213
		0.25			59.4	3.000	0.252	1.110	1.580	---	31.60	45.64*			60.51*			1973	86213
		0.25			59.4	3.000	0.253	1.090	1.600	---	32.10	45.79*			62.21*			1973	86213
		0.25			59.4	3.000	0.253	1.160	1.570	---	31.00	46.18*			59.00*			1973	86213
		0.25			59.4	3.000	0.253	1.110	1.560	---	31.70	45.79*			59.98*			1973	86213
		0.25			59.4	3.000	0.253	1.080	1.530	---	32.60	46.21*			60.58*			1973	86213
T7351	Plate	0.25	R.T.	T-L	59.0	4.000	0.248	1.480	1.900	---	33.60	56.04*	---	---	67.74*	---	---	1973	86213
		0.25			59.0	4.000	0.248	1.450	1.900	---	34.50	56.73*			69.55*			1973	86213
		0.25			59.4	3.990	0.251	1.710	2.400	---	26.90	49.86			68.24*			1973	86213
T7351	Plate	1.00	R.T.	T-L	63.6	20.000	1.000	7.000	8.910	---	11.00	39.50	39.3	0.7	47.05	46.5	1.2	1973	86213
		1.00			63.6	20.000	1.000	7.000	8.650	---	10.70	38.42			44.72			1973	86213
		1.00			63.6	20.000	1.000	7.000	8.790	---	11.20	40.22			47.40			1973	86213
		1.00			63.6	20.000	1.000	7.000	8.920	---	10.90	39.14			46.66			1973	86213
T7351	Plate	0.50	R.T.	T-L	62.1	36.070	0.497	7.310	---	---	15.10	52.50	---	---	---	---	---	1970	79089
T76	Sheet	0.06	R.T.	L-T	73.6	3.000	0.064	1.210	2.127	---	37.60	57.74*	---	---	103.37*	---	---	1973	86213
		0.06			73.6	3.000	0.064	1.170	2.082	---	37.10	55.60*			98.67*			1973	86213
T76	Sheet	0.09	R.T.	L-T	72.5	3.000	0.094	1.180	1.853	---	33.50	50.52	---	---	75.98*	---	---	1973	86213
		0.09			72.5	3.000	0.094	1.160	2.071	---	35.80	53.33*			94.37*			1973	86213

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONCLUDED)

CONDITION HEAT TREAT	PRODUCT FORM	PRODUCT THICK (in.)	TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN WIDTH (in.) W	SPECIMEN THICK (in.) B	CRACK LENGTH INIT (in.) $2a_o$	CRACK LENGTH FINAL (in.) $2a_f$	GROSS STRESS ONSET (Ksi) σ_o	GROSS STRESS MAX (Ksi) σ_{Max}	K_{app} (Ksi$\sqrt{in}$)	K_{app} MEAN	K_{app} STAN DEV	K_c (Ksi$\sqrt{in}$)	K_c MEAN	K_c STAN DEV	DATE	REFER
ALUMINUM 7075 K_C																			
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T76	Sheet	0.12	R.T.	L-T	72.2	3.000	0.127	1.260	2.121	---	33.40	52.86	---	---	91.40*	---	---	1973	86213
		0.12			72.2	3.000	0.127	1.100	2.027	---	37.10	53.25*			94.73*			1973	86213
T76	Sheet	0.06	R.T.	T-L	71.8	3.000	0.064	1.220	1.937	---	31.30	48.36	49.1	1.1	75.06*	---	---	1973	86213
		0.06			71.8	3.000	0.064	1.180	1.893	---	33.10	49.91			77.07*			1973	86213
T76	Sheet	0.09	R.T.	T-L	71.6	3.000	0.093	1.140	1.907	---	33.20	48.85	48.5	0.5	78.03*	---	---	1973	86213
		0.09			71.6	3.000	0.093	1.220	1.987	---	31.20	48.20			77.44*			1973	86213
T76	Sheet	0.12	R.T.	T-L	70.8	3.000	0.126	1.150	1.837	---	33.40	49.45	49.3	0.2	74.97*	---	---	1973	86213
		0.12			70.8	3.000	0.126	1.230	1.952	---	31.60	49.12			76.62*			1973	86213
T7651	Plate	0.25	R.T.	L-T	72.0	4.000	0.250	1.523	2.650	---	31.20	53.06	53.6	0.8	89.52*	---	---	1973	86213
		0.25			72.0	4.000	0.251	1.563	2.514	---	31.30	54.22			83.79*			1973	86213
T7651	Plate	0.25	R.T.	T-L	71.1	4.000	0.251	1.553	2.548	---	24.80	42.76	42.4	0.5	67.53*	---	---	1973	86213
		0.25			71.1	4.000	0.251	1.530	2.388	---	24.60	41.99			61.94*			1973	86213

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

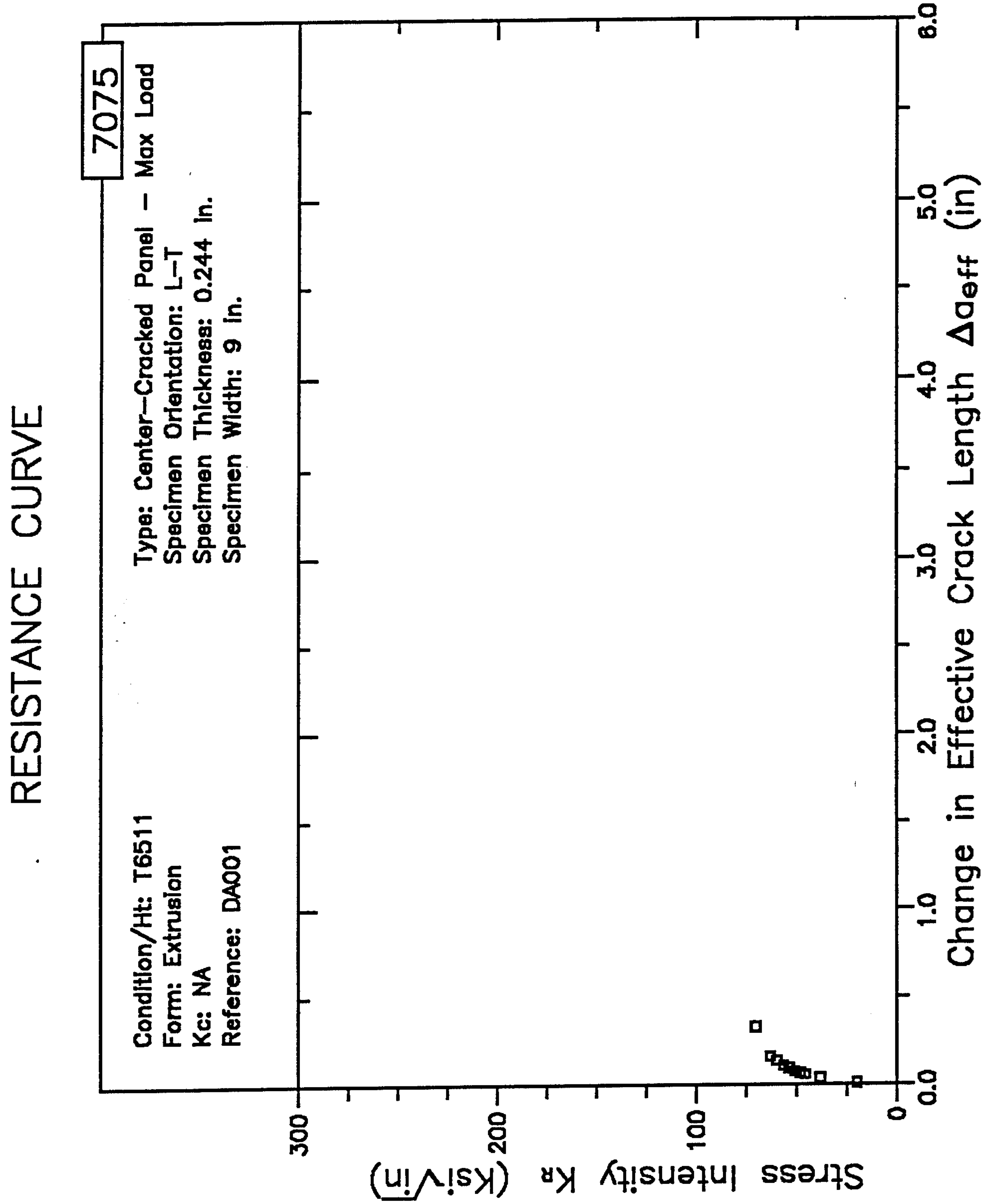


Figure 8.9.2.3.1

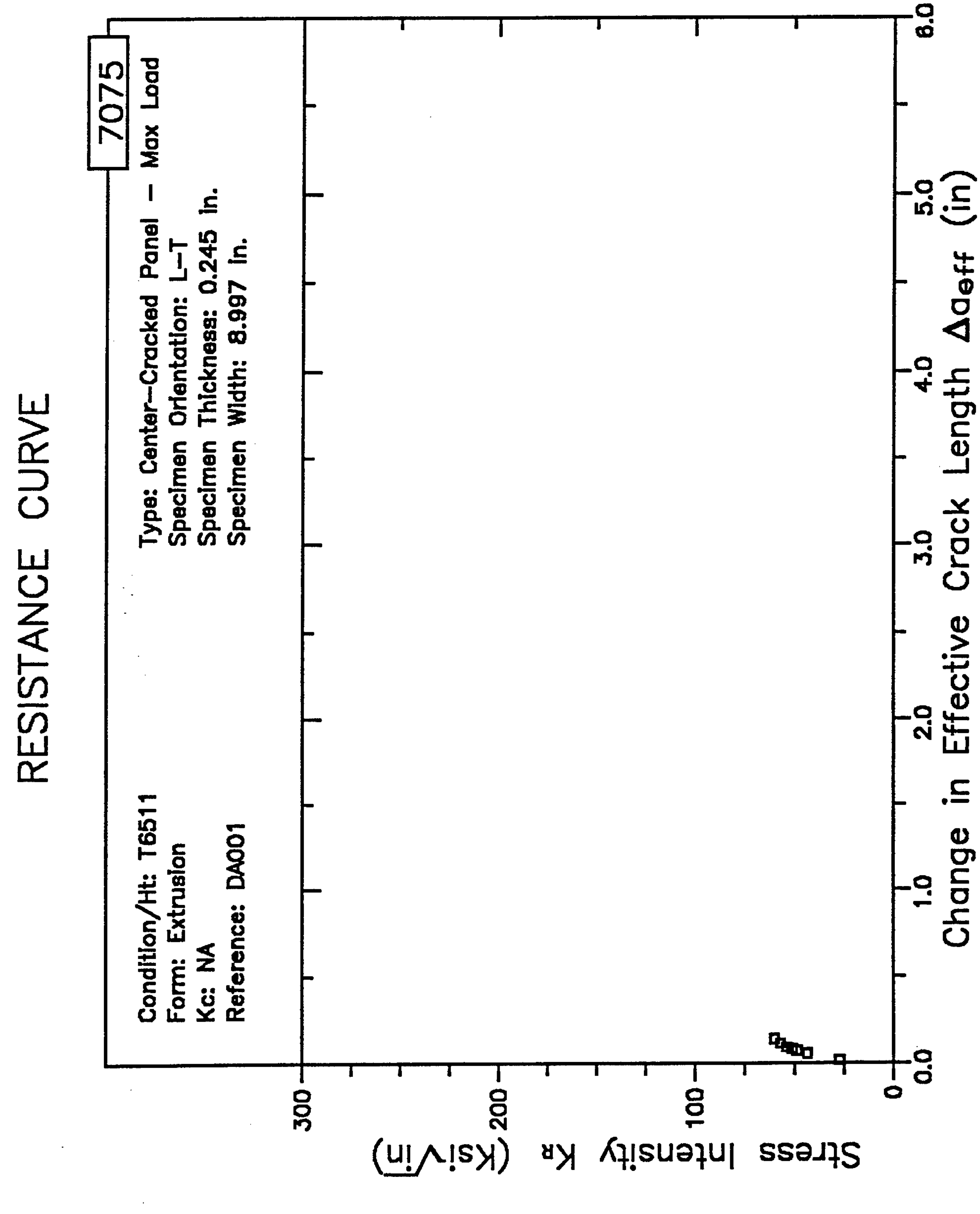


Figure 8.9.2.3.2

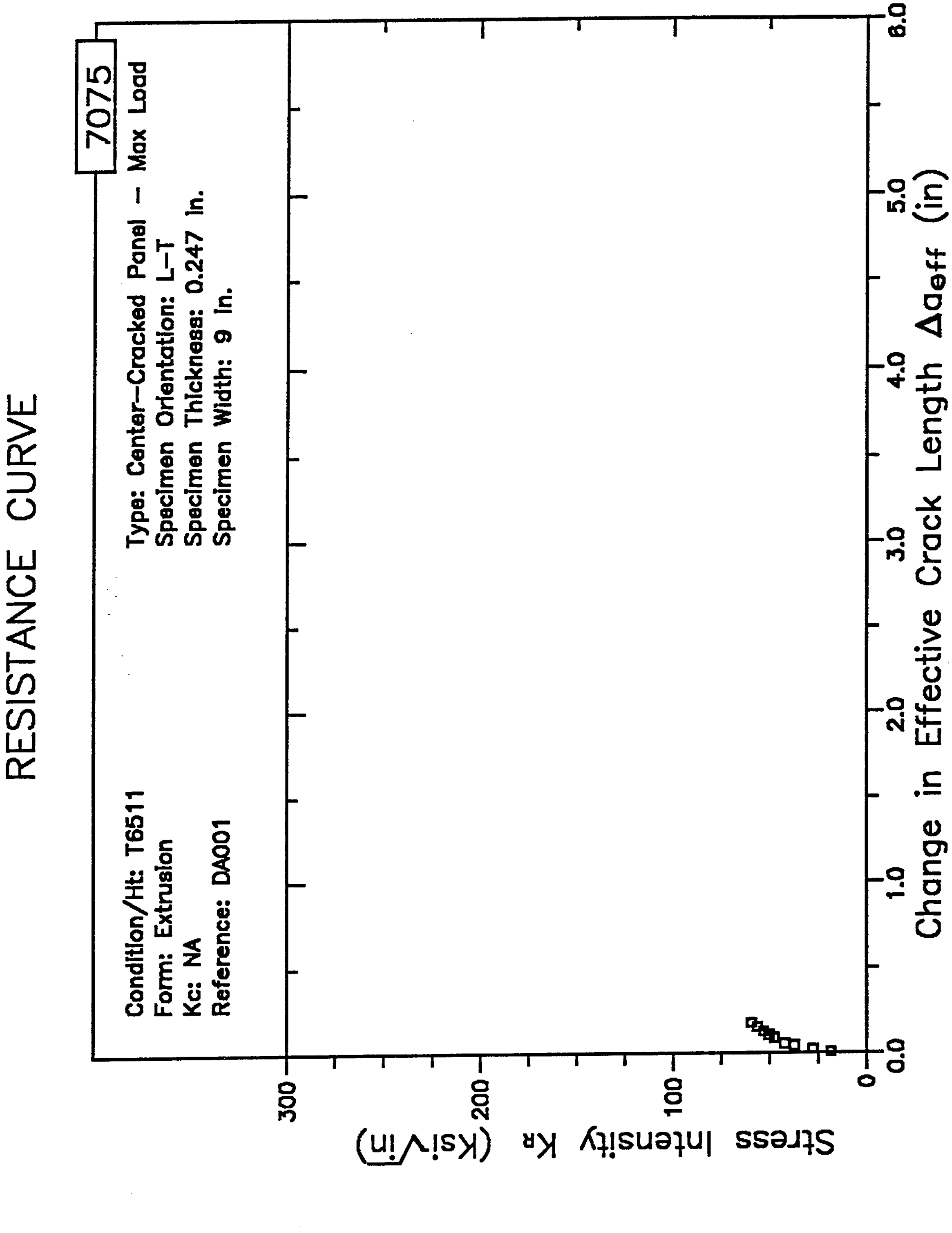


Figure 8.9.2.3.3

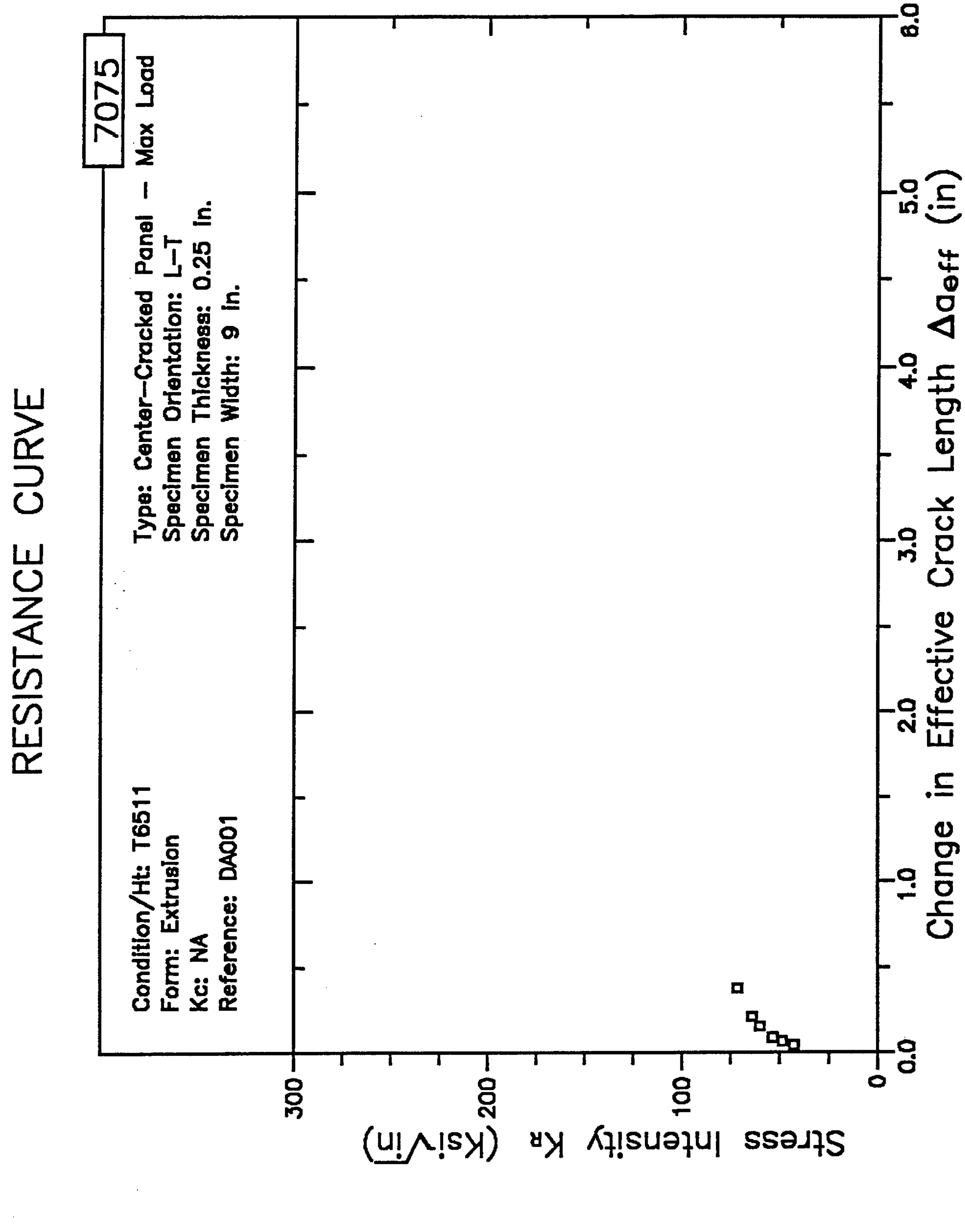


Figure 8.9.2.3.4

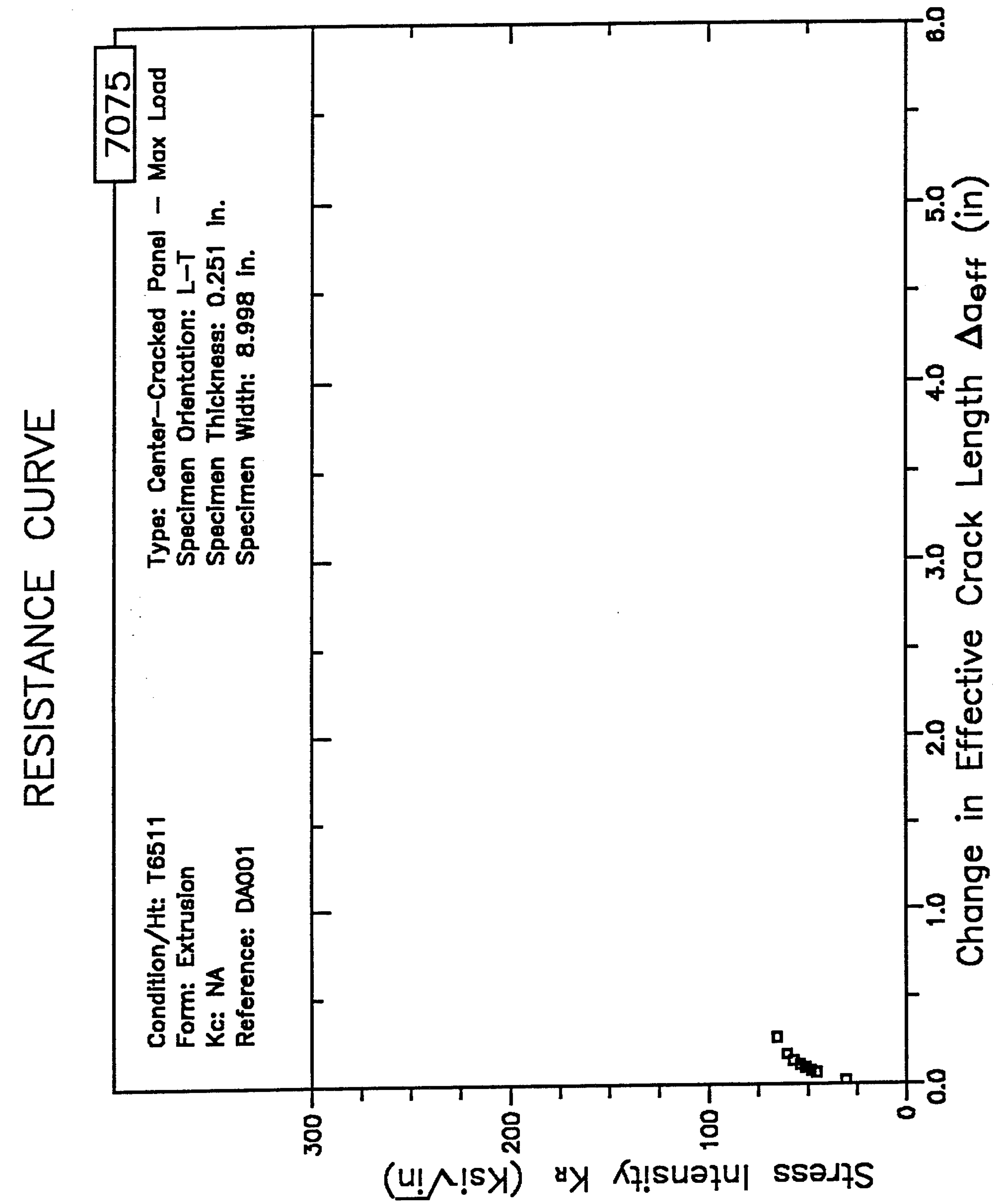


Figure 8.9.2.3.5

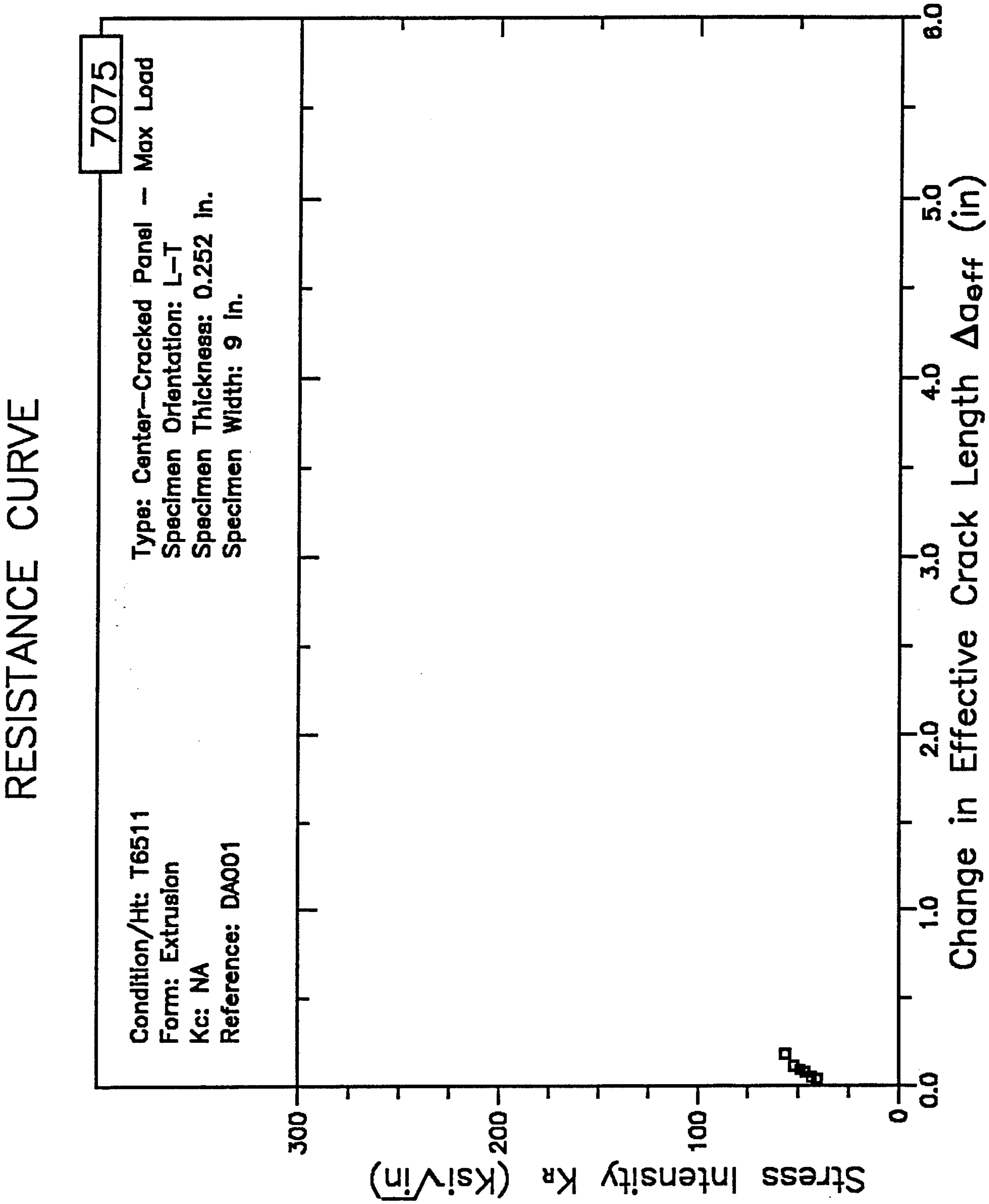


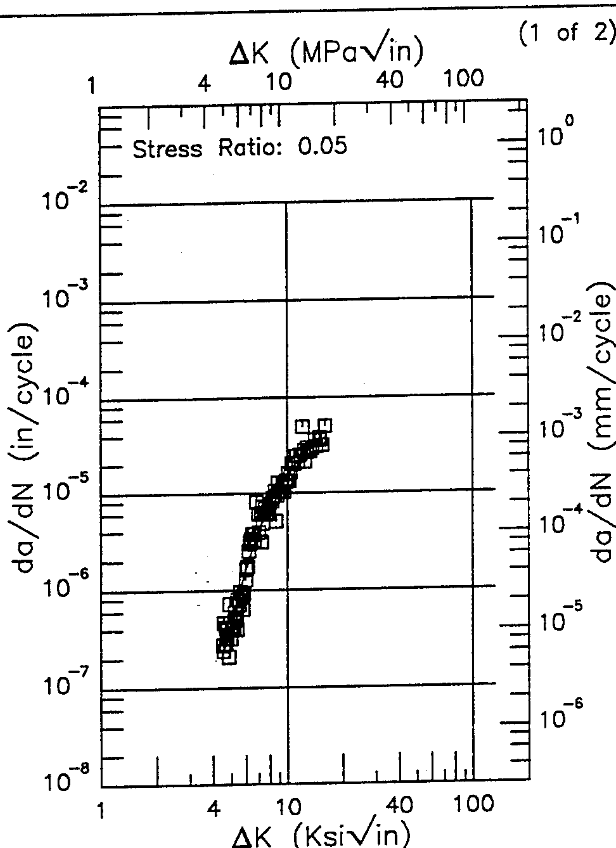
Figure 8.9.2.3.6

R 7075

Condition/Ht: T6
Form: 0.2 in. Sheet
Specimen Type: CT
Orientation: L–T
Frequency: 9 Hz
Environment: H.H.A.; RT

Yield Strength: 75.8 ksi
Ult. Strength: 81.2 ksi
Specimen Thk: 0.2 in.
Specimen Width: 3.75 in.
Ref: BW001

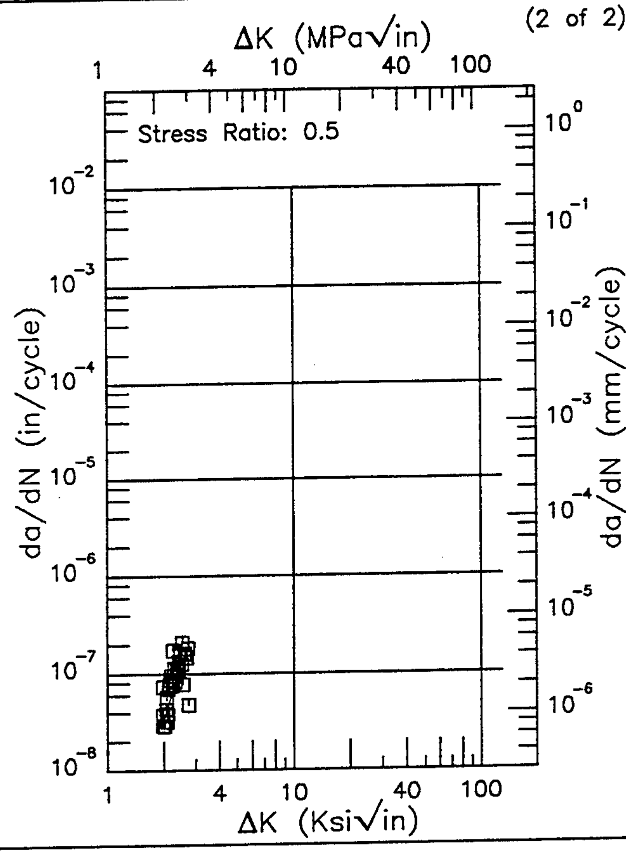
(1 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.49 (min)	0.220
5.	0.481
6.	1.68
7.	4.19
8.	7.94
9.	12.0
10.	15.9
13.	28.4
15.95 (max)	38.2

RMS % Error	Life Prediction Ratio Summary
31.35	0. .5 .8 1.25 2.

(2 of 2)



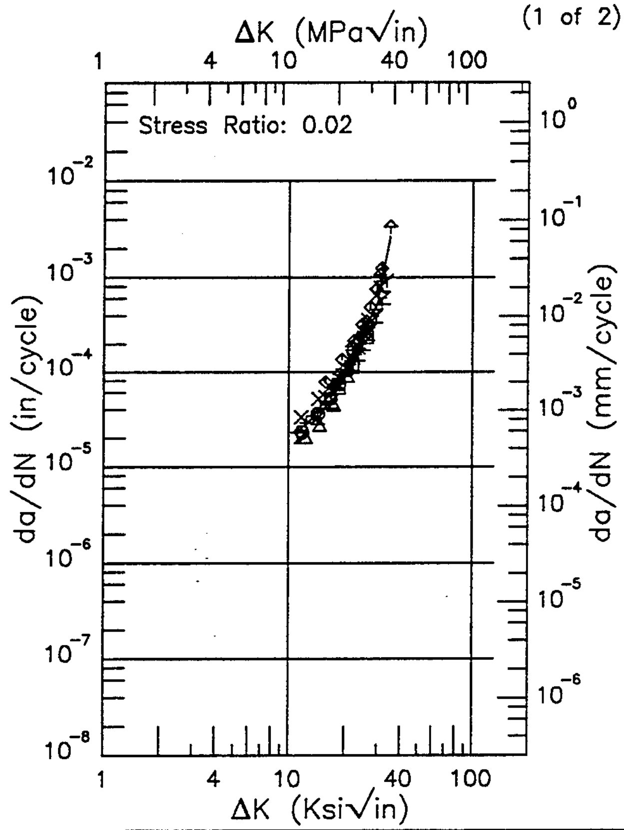
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.98 (min)	0.0317
2.	0.0335
2.5	0.129
2.72 (max)	0.142

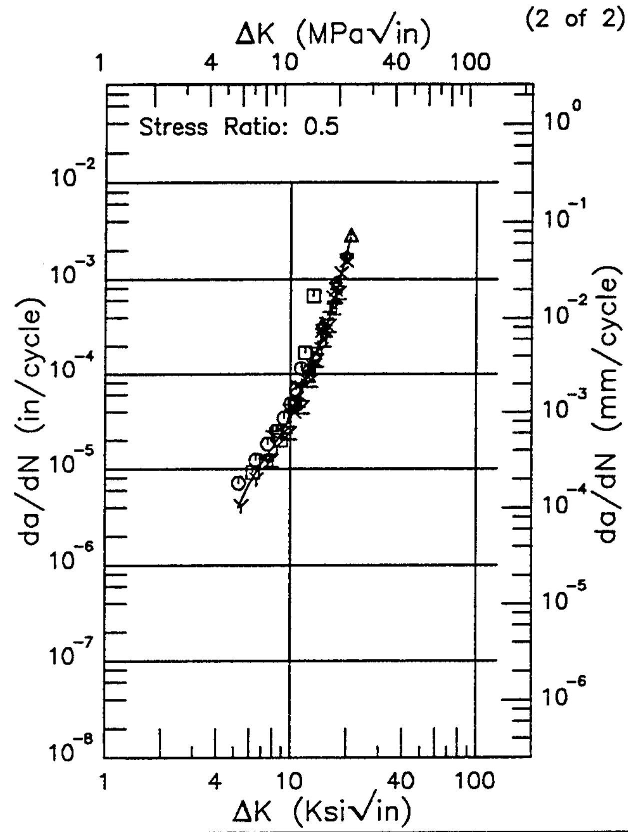
RMS % Error	Life Prediction Ratio Summary
48.67	0. .5 .8 1.25 2.

Figure 8.9.3.1.1

Condition/Ht: T6
Form: 0.2 in. Sheet
Specimen Type: CCP (max load specified)
Orientation: L–T
Frequency: 1 Hz
Environment: LAB AIR; RT

Yield Strength: 76.6 – 79.9 ksi
Ult. Strength: 83.3 – 86.7 ksi
Specimen Thk: 0.2 in.
Specimen Width: 11.5 in.
Ref: 86088





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
11.06 (min)	23.2
13.	30.3
16.	52.8
20.	99.0
25.	251.
30.	540.
35.	2503.
35.09 (max)	2655.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.27 (min)	4.00
6.	7.04
7.	11.3
8.	16.3
9.	23.8
10.	36.7
13.	133.
16.	361.
20.	1803.
21.02 (max)	2721.

RMS % Error	Life Prediction Ratio Summary
23.18	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
52.44	0. .5 .8 1.25 2.

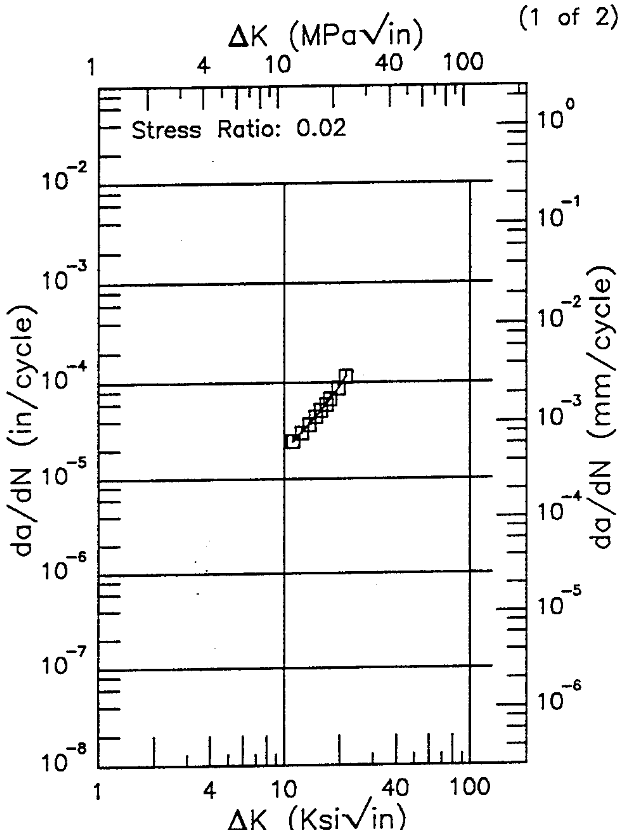
Figure 8.9.3.1.2

R — 7075

Condition/Ht: T6
Form: 0.2 in. Sheet
Specimen Type: CCP (max load specified)
Orientation: L–T
Frequency: 3 Hz
Environment: LAB AIR; RT

Yield Strength: 78.6 ksi
Ult. Strength: 86.3 ksi
Specimen Thk: 0.2 in.
Specimen Width: 11.5 in.
Ref: 86088

(1 of 2)



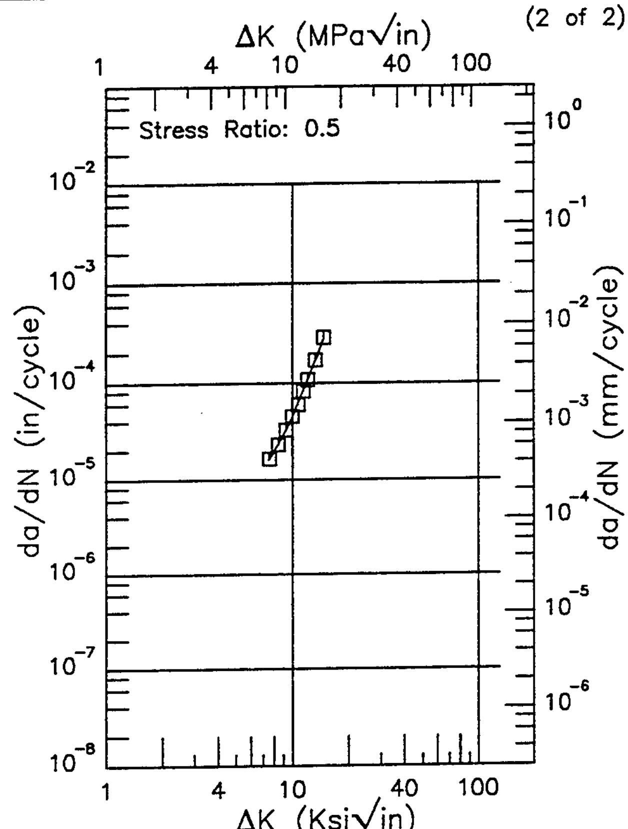
ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
11.06 (min)	24.4
13.	33.5
16.	53.1
20.	91.7
21.38 (max)	113.

RMS % Error 0.56

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
7.52 (min)	16.3
8.	19.6
9.	29.6
10.	45.4
13.	155.
14.69 (max)	285.

RMS % Error 1.27

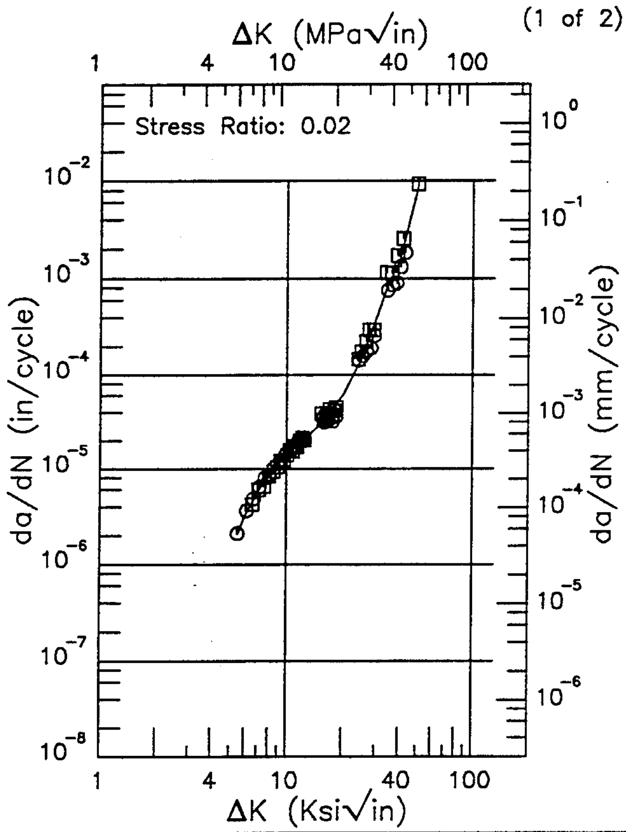
Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.9.3.1.3

Condition/Ht: T6
Form: 0.13 in. Sheet
Specimen Type: CCP (max load specified)
Orientation: L-T
Frequency: 10 Hz
Environment: LAB AIR; RT

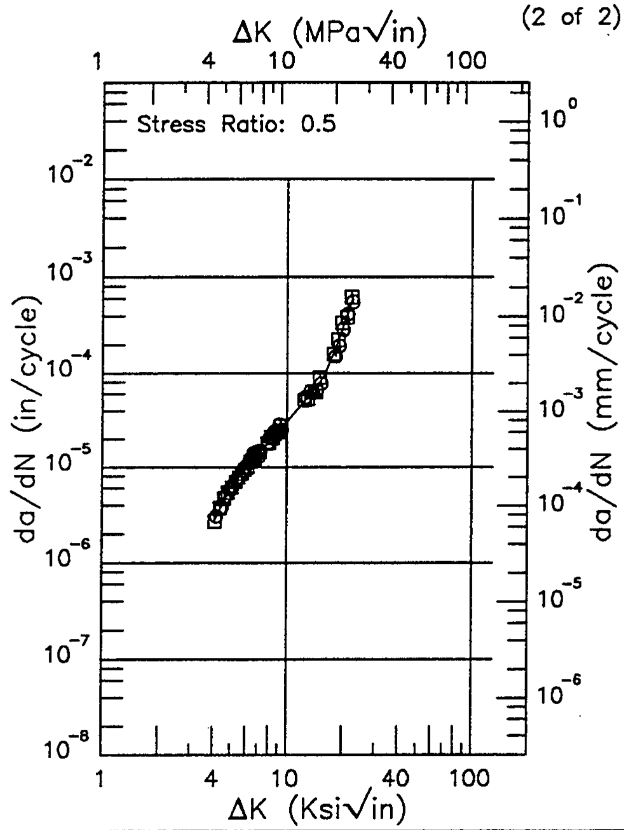
Yield Strength: 74.7 ksi
Ult. Strength: 80 ksi
Specimen Thk: 0.04 in.
Specimen Width: 3.9 in.
Ref: MA009



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.49 (min)	2.06
6.	3.15
7.	5.71
8.	8.50
9.	11.3
10.	14.0
13.	22.2
16.	33.2
20.	60.4
25.	144.
30.	381.
35.	905.
40.	1509.
50.	8364.
50.23 (max)	9121.

RMS % Error
13.57

Life Prediction Ratio Summary
0. .5 .8 1.25 2.



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.06 (min)	2.75
5.	6.02
6.	9.97
7.	14.1
8.	18.6
9.	24.0
10.	30.4
13.	55.7
16.	93.6
20.	299.
22.64 (max)	616.

RMS % Error
6.97

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

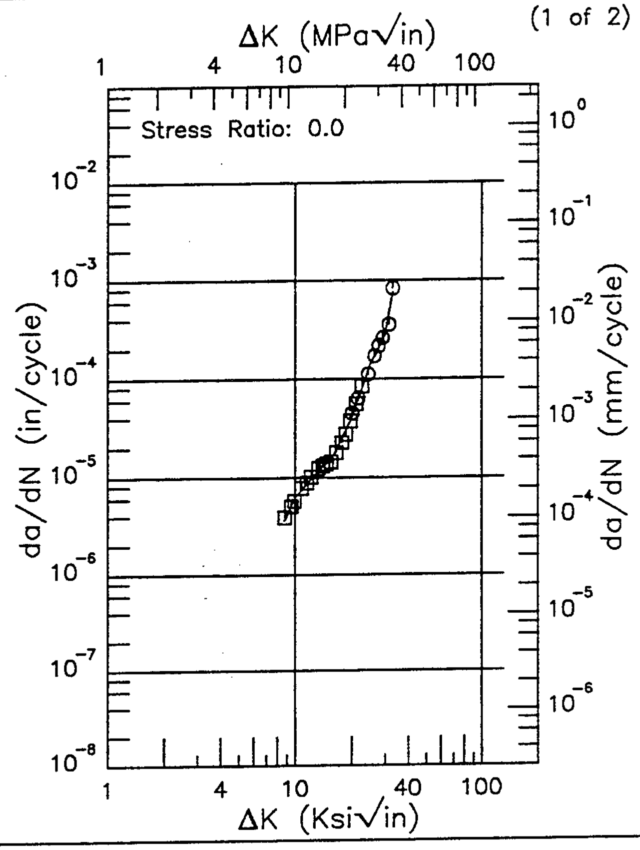
Figure 8.9.3.1.4

R — 7075

Condition/Ht: T6
Form: 0.09 in. Sheet
Specimen Type: CCP (max load specified)
Orientation: T-L
Frequency: 13.3 Hz
Environment: LAB AIR; RT

Yield Strength: 71.6 ksi
Ult. Strength: 80.1 ksi
Specimen Thk: 0.09 in.
Specimen Width: 4 in.
Ref: 86213

(1 of 2)



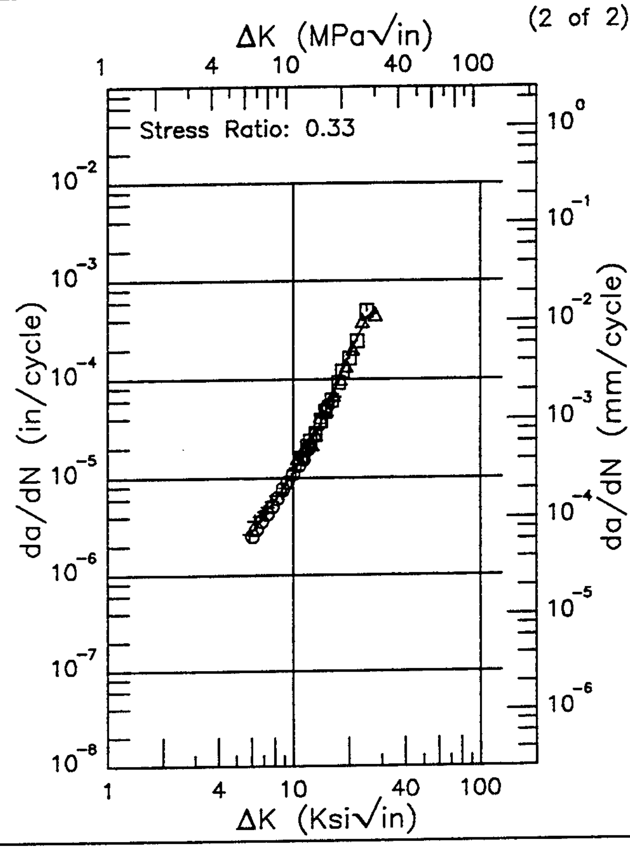
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
8.77 (min)	3.61
9.	4.12
10.	6.28
13.	11.1
16.	17.2
20.	40.7
25.	142.
30.	282.
32.86 (max)	758.

RMS % Error: 7.33

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.85 (min)	2.55
6.	2.74
7.	4.20
8.	6.01
9.	8.29
10.	11.2
13.	26.1
16.	60.1
20.	175.
25.	425.
27.54 (max)	515.

RMS % Error: 8.54

Life Prediction Ratio Summary

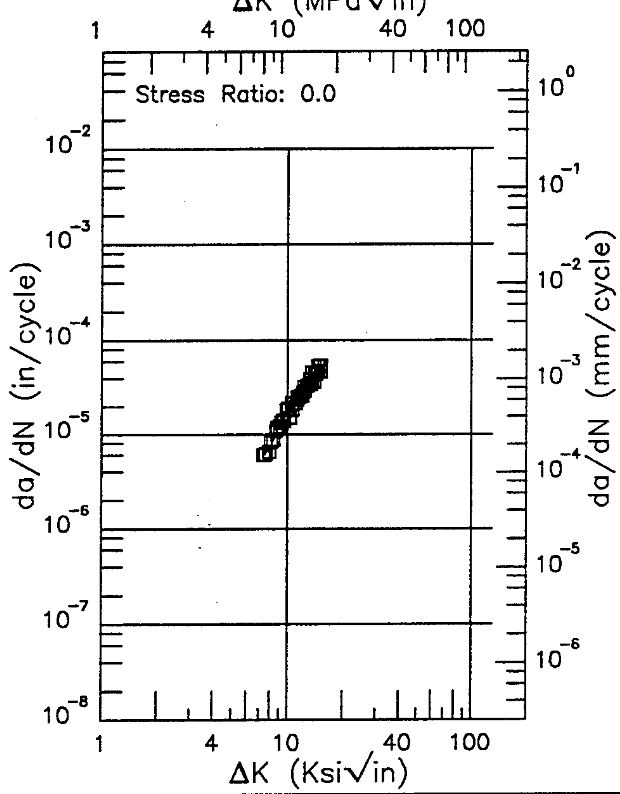
0. .5 .8 1.25 2.

Figure 8.9.3.1.5

Condition/Ht: T6
Form: Sheet
Specimen Type: CCP (max stress specified)
Orientation: L–T
Frequency: 9 Hz
Environment: H.H.A.; RT

Yield Strength:
Ult. Strength:
Specimen Thk: 0.163 in.
Specimen Width: 5 in.
Ref: BW002

(1 of 2)



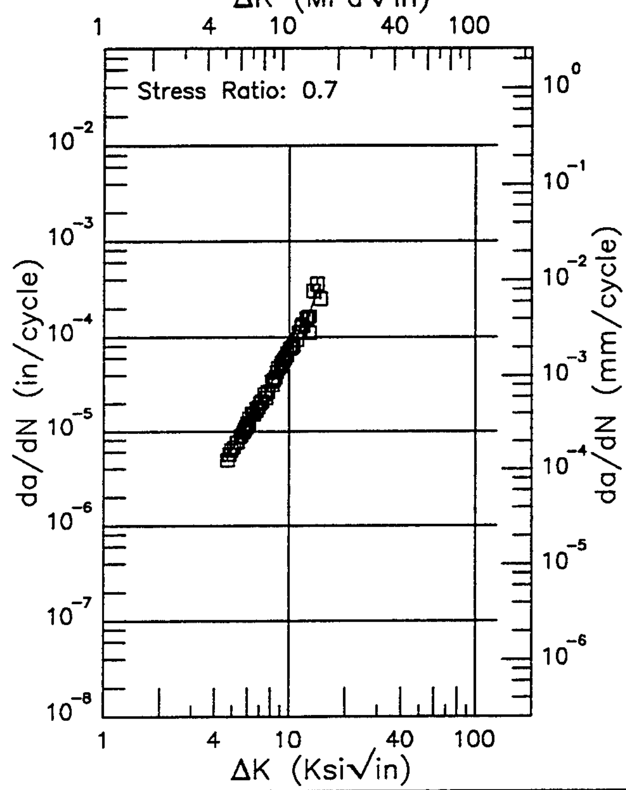
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
7.37 (min)	5.72
8.	7.32
9.	12.1
10.	17.2
13.	34.9
15.07 (max)	49.3

RMS % Error 7.38

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.70 (min)	5.21
5.	6.36
6.	11.7
7.	20.0
8.	32.0
9.	48.5
10.	70.2
13.	194.
14.64 (max)	355.

RMS % Error 9.30

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

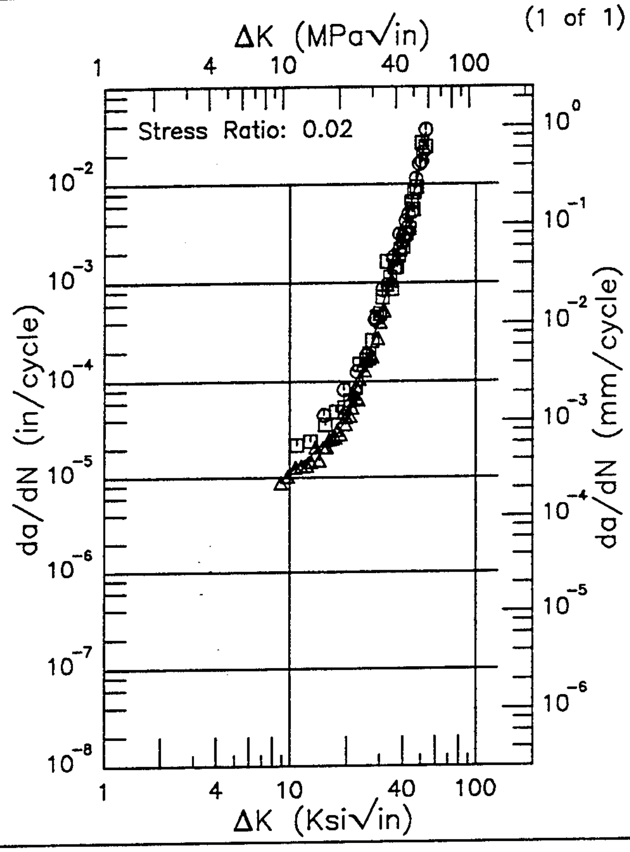
Figure 8.9.3.1.6

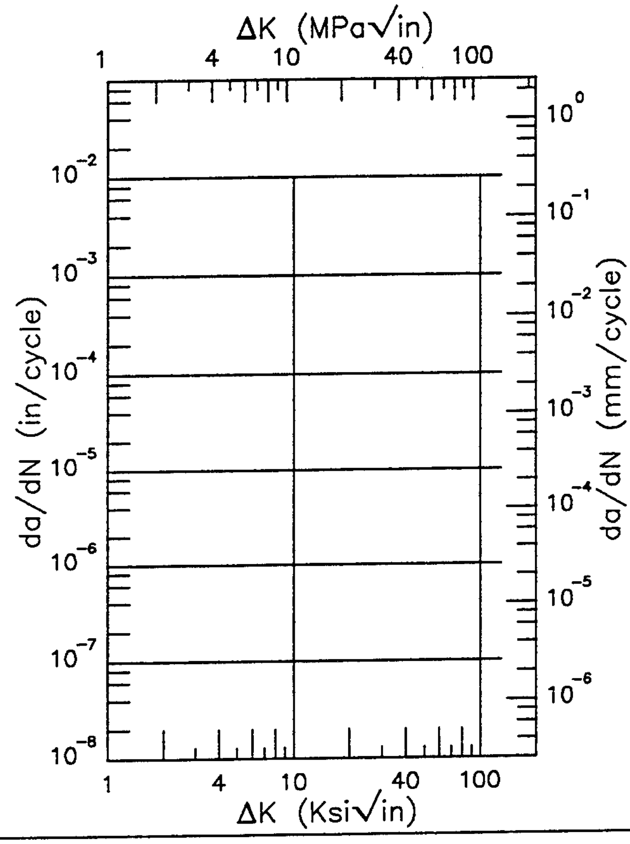
R 7075

Condition/Ht: T6
Form: 0.13 in. Sheet
Specimen Type: CCP (max stress specified)
Orientation: L-T
Frequency: 0.1 - 30 Hz
Environment: LAB AIR; RT

Yield Strength: 74.5 ksi
Ult. Strength: 80 ksi
Specimen Thk: 0.04 in.
Specimen Width: 3.9 in.
Ref: MA008

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
8.90 (min)	9.23
9.	9.43
10.	11.3
13.	17.0
16.	25.5
20.	49.5
25.	142.
30.	450.
35.	1260.
40.	2886.
50.	15863.
53.14 (max)	33815.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
28.04

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

RMS % Error

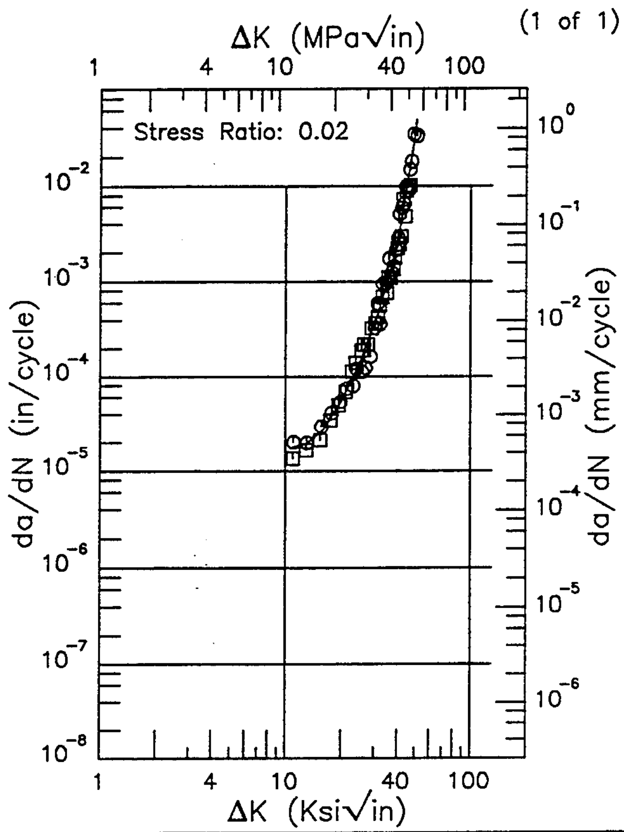
Life Prediction Ratio Summary
0. .5 .8 1.25 2.

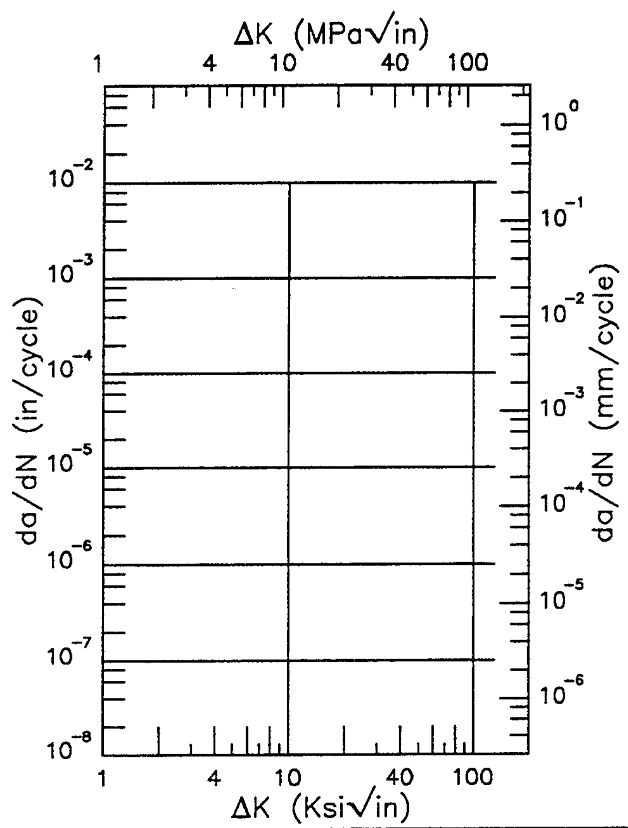
Figure 8.9.3.1.7

Condition/Ht: T6
Form: 0.13 in. Sheet
Specimen Type: CCP (max stress specified)
Orientation: L–T
Frequency: 0.1 – 30 Hz
Environment: LAB AIR; RT

Yield Strength: 74.5 ksi
Ult. Strength: 80 ksi
Specimen Thk: 0.02 in.
Specimen Width: 3.9 in.
Ref: MA008

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
10.95 (min)	17.9
13.	19.3
16.	27.6
20.	54.2
25.	140.
30.	363.
35.	925.
40.	2597.
50.	35607.
50.97 (max)	47891.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error 21.69

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

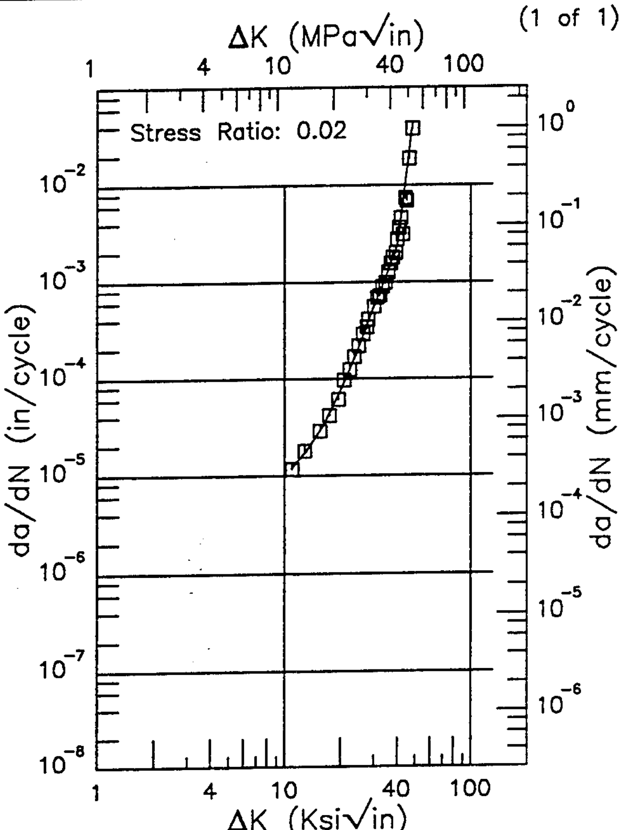
Figure 8.9.3.1.8

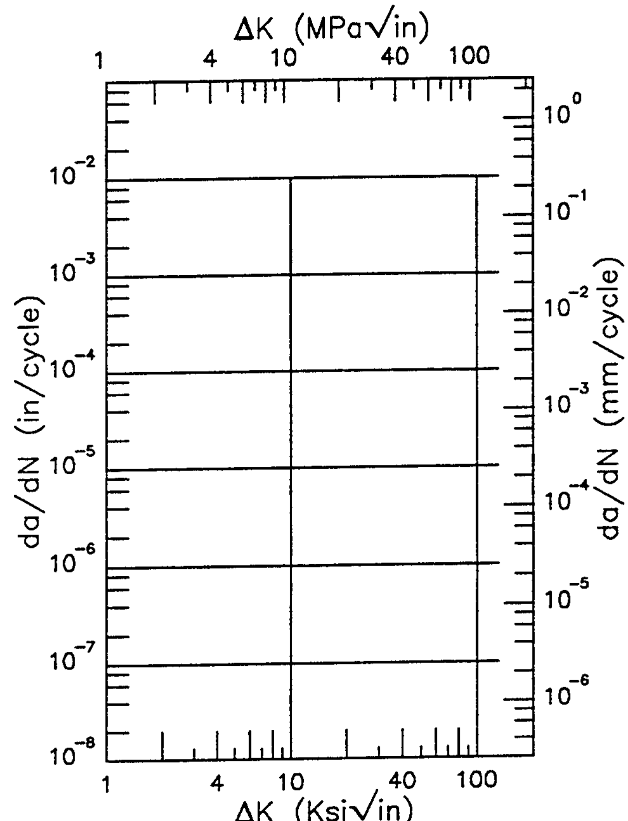
R 7075

Condition/Ht: T6
Form: 0.13 in. Sheet
Specimen Type: CCP (max stress specified)
Orientation: L-T
Frequency: 0.1 - 30 Hz
Environment: LAB AIR; RT

Yield Strength: 74.5 ksi
Ult. Strength: 80 ksi
Specimen Thk: 0.08 in.
Specimen Width: 3.9 in.
Ref: MA008

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
10.91 (min)	12.0
13.	17.5
16.	32.2
20.	75.5
25.	213.
30.	543.
35.	1165.
40.	2397.
47.98 (max)	37746.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
15.76	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.9.3.1.9

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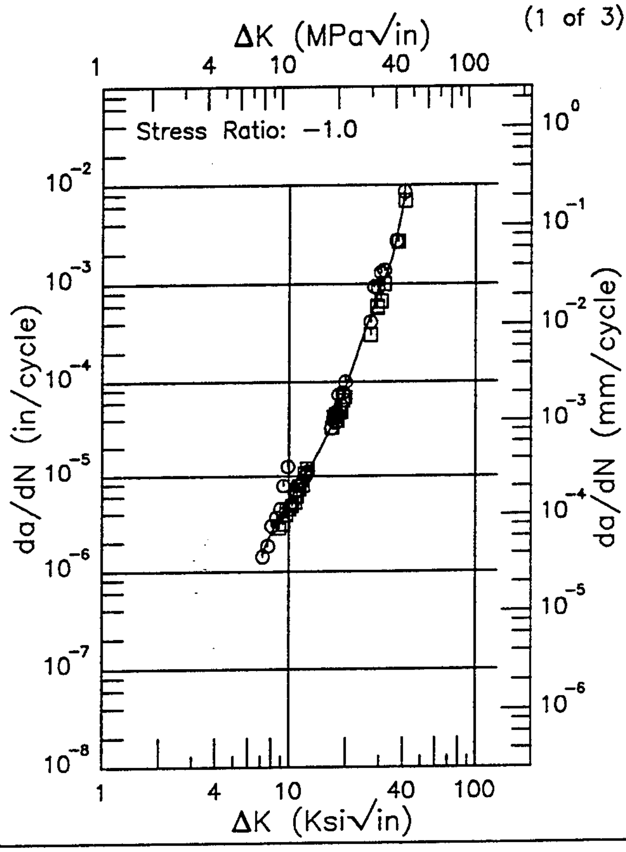
R 7075

Condition/Ht: T6
Form: 1 in. Plate
Specimen Type: CCP (max load specified)
Orientation: L–T
Frequency: 10 Hz
Environment: L.H.A.; RT

Yield Strength: 80 ksi
Ult. Strength: 88 ksi
Specimen Thk: 0.25 in.
Specimen Width: 4 in.
Ref: MA007

(1 of 3)



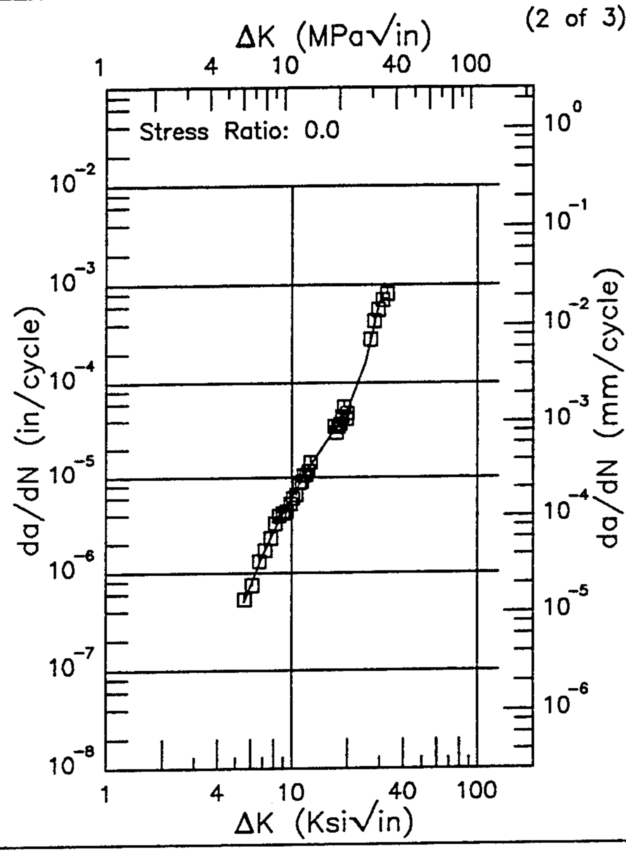
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
7.21 (min)	1.50
8.	2.46
9.	3.88
10.	5.48
13.	12.2
16.	27.3
20.	89.1
25.	323.
30.	849.
35.	1825.
40.	5920.
41.22 (max)	9215.

RMS % Error 28.63

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.56 (min)	0.504
6.	0.737
7.	1.51
8.	2.66
9.	4.21
10.	6.17
13.	14.4
16.	26.3
20.	52.0
25.	157.
30.	677.
32.61 (max)	735.

RMS % Error 9.21

Life Prediction Ratio Summary

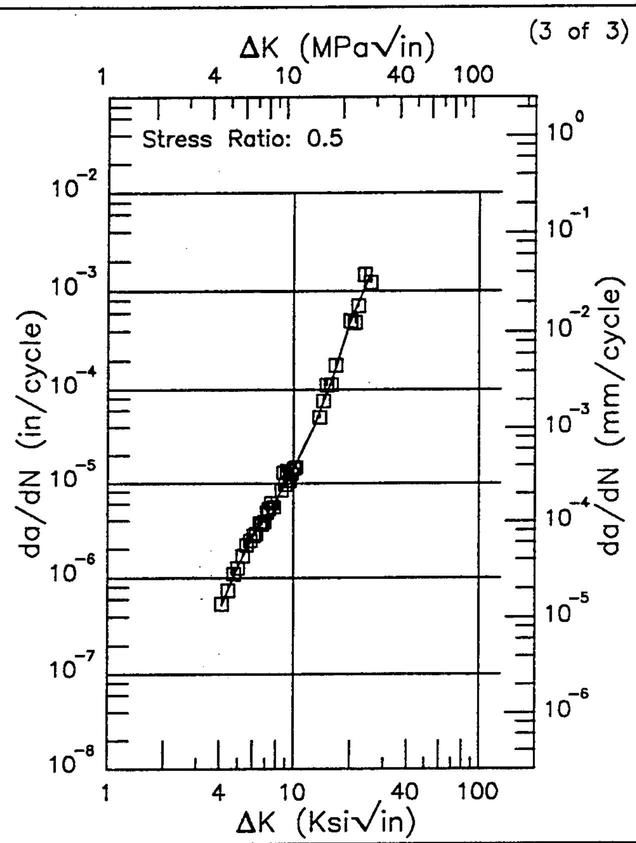
0. .5 .8 1.25 2.

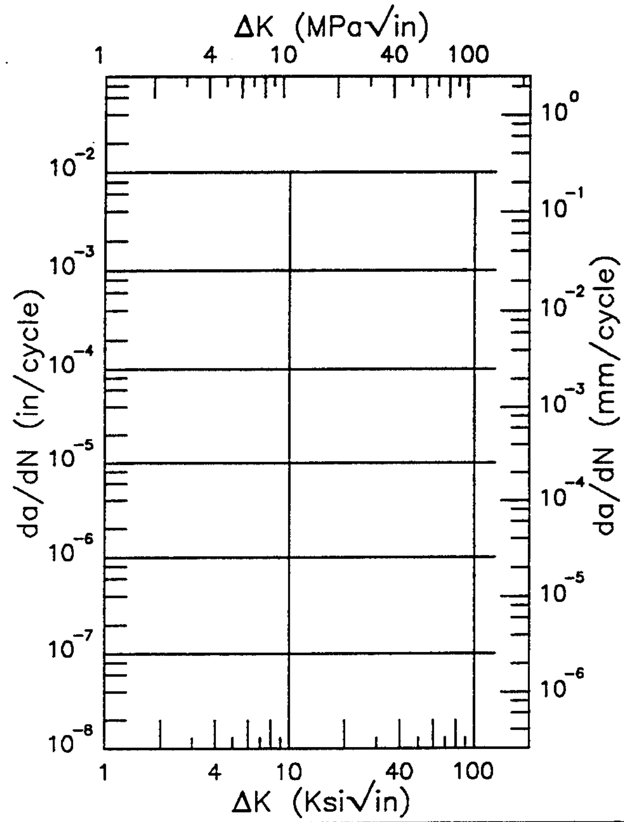
Figure 8.9.3.1.10

Condition/Ht: T6
Form: 1 in. Plate
Specimen Type: CCP (max load specified)
Orientation: L–T
Frequency: 10 Hz
Environment: L.H.A.; RT

Yield Strength: 80 ksi
Ult. Strength: 88 ksi
Specimen Thk: 0.25 in.
Specimen Width: 4 in.
Ref: MA007

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.11 (min)	0.527
5.	1.31
6.	2.62
7.	4.38
8.	6.72
9.	9.87
10.	14.2
13.	41.6
16.	127.
20.	486.
25.	1369.
25.42 (max)	1442.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
13.38

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

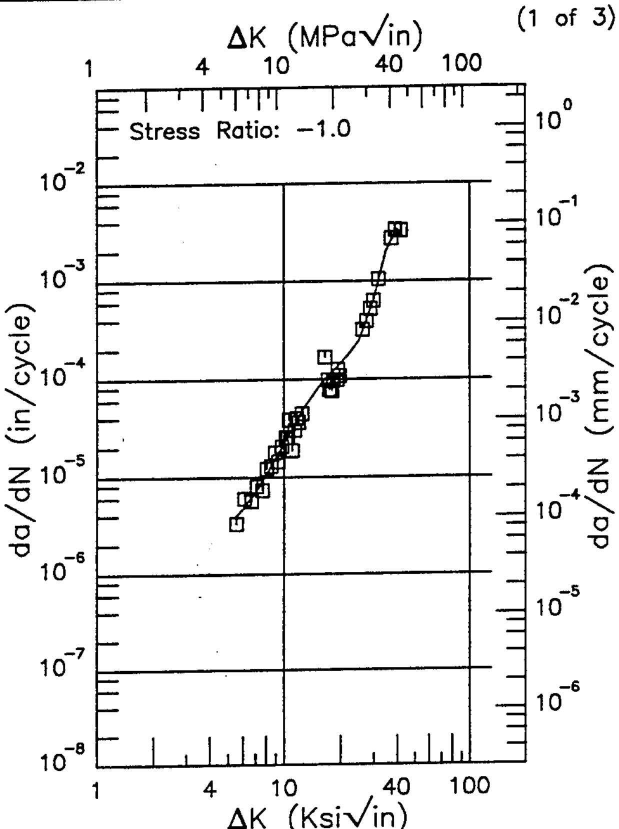
Figure 8.9.3.1.10 (Concluded)

R 7075

Condition/Ht: T6
Form: 1 in. Plate
Specimen Type: CCP (max load specified)
Orientation: L–T
Frequency: 0.1 Hz
Environment: 3.5% NACL; RT

Yield Strength: 80 ksi
Ult. Strength: 88 ksi
Specimen Thk: 0.25 in.
Specimen Width: 4 in.
Ref: MA007

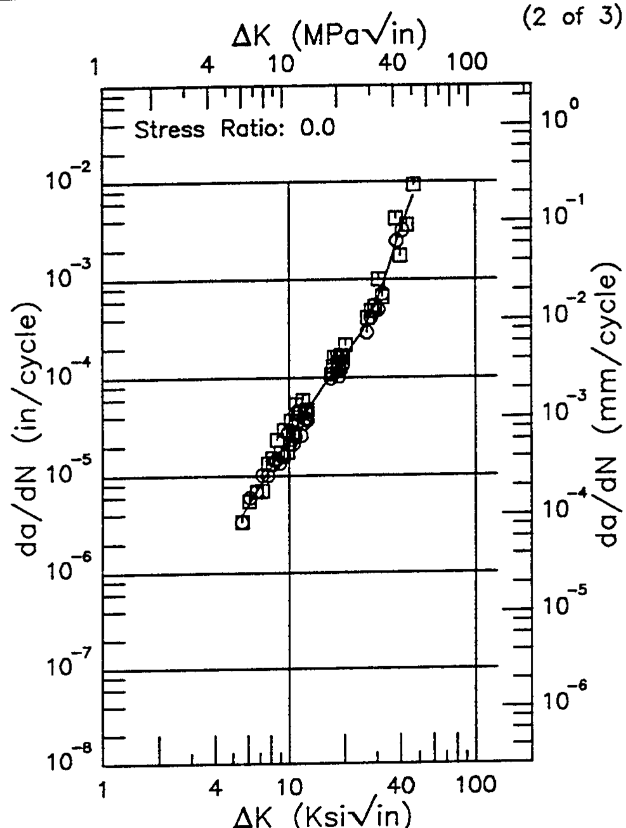
(1 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.52 (min)	3.91
6.	4.68
7.	7.02
8.	10.6
9.	15.6
10.	22.3
13.	52.9
16.	93.7
20.	144.
25.	248.
30.	646.
35.	2069.
40.	3343.
41.89 (max)	3015.

RMS % Error	Life Prediction Ratio Summary
20.56	0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.55 (min)	3.84
6.	4.94
7.	8.06
8.	12.2
9.	17.5
10.	24.0
13.	51.2
16.	90.4
20.	161.
25.	295.
30.	593.
35.	1385.
40.	3255.
46.80 (max)	7167.

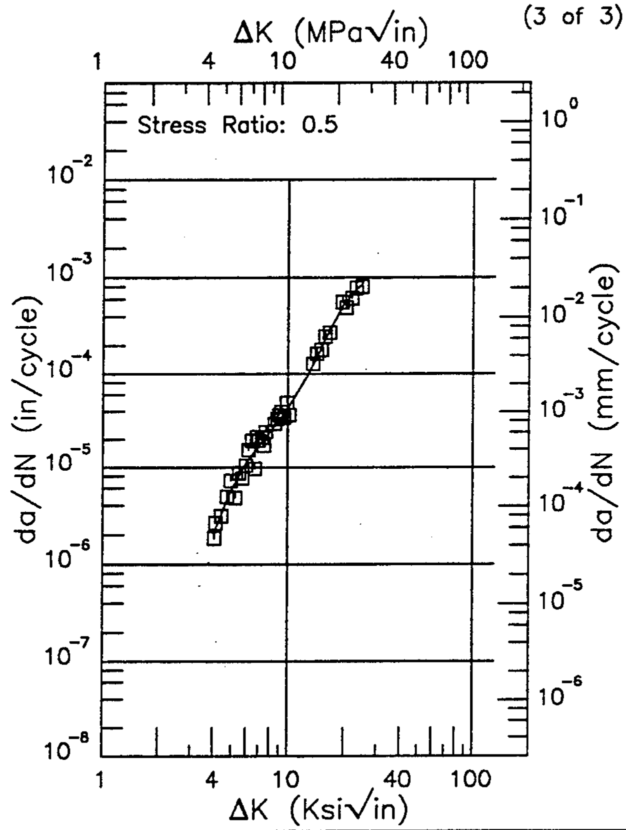
RMS % Error	Life Prediction Ratio Summary
25.17	0. .5 .8 1.25 2.

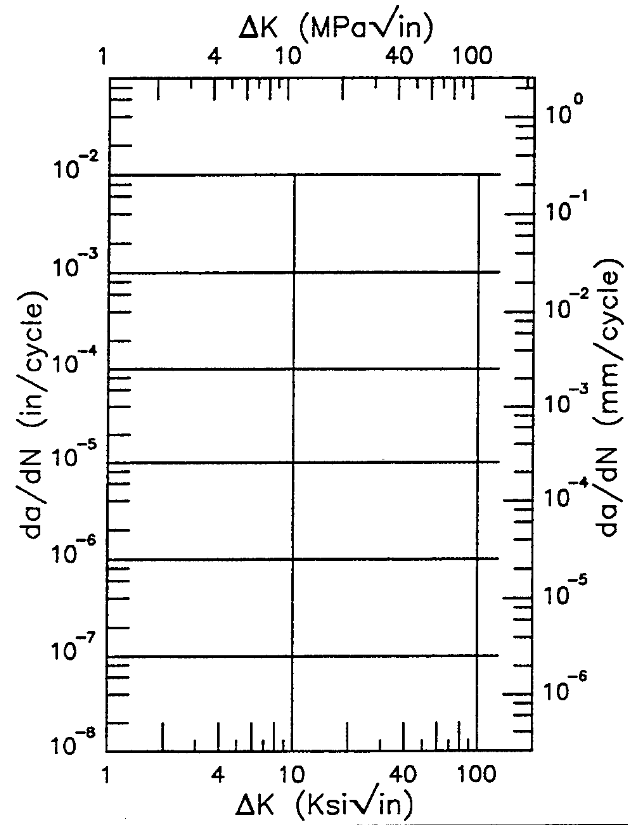
Figure 8.9.3.1.11

Condition/Ht: T6
Form: 1 in. Plate
Specimen Type: CCP (max load specified)
Orientation: L-T
Frequency: 0.1 Hz
Environment: 3.5% NACL; RT

Yield Strength: 80 ksi
Ult. Strength: 88 ksi
Specimen Thk: 0.25 in.
Specimen Width: 4 in.
Ref: MA007

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.03 (min)	2.05
5.	5.97
6.	11.2
7.	17.1
8.	23.8
9.	32.0
10.	42.8
13.	104.
16.	248.
20.	547.
24.70 (max)	840.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
16.95

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

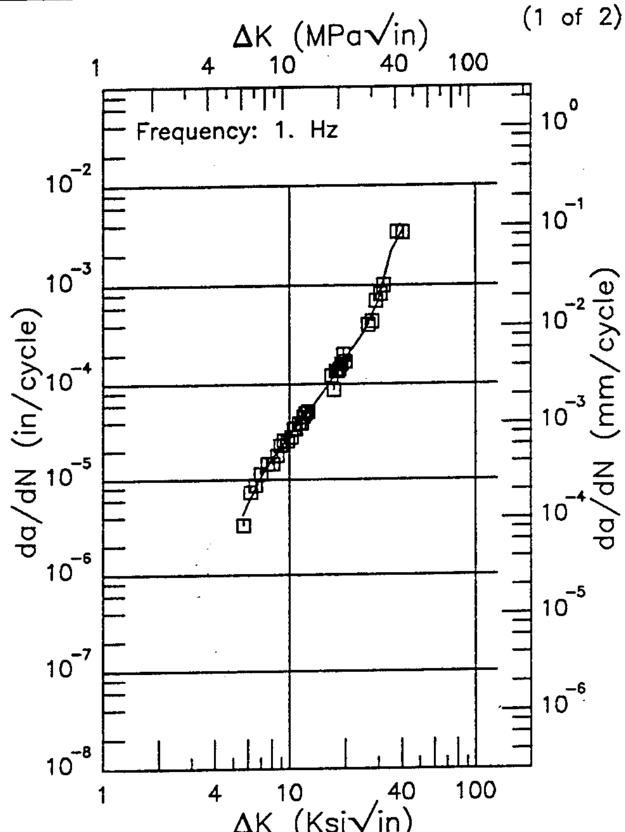
Figure 8.9.3.1.11 (Concluded)

F 7075

Condition/Ht: T6
Form: 1 in. Plate
Specimen Type: CCP (max load specified)
Orientation: L–T
Stress Ratio: 0.
Environment: 3.5% NACL; RT

Yield Strength: 80 ksi
Ult. Strength: 88 ksi
Specimen Thk: 0.25 in.
Specimen Width: 4 in.
Ref: MA007

(1 of 2)

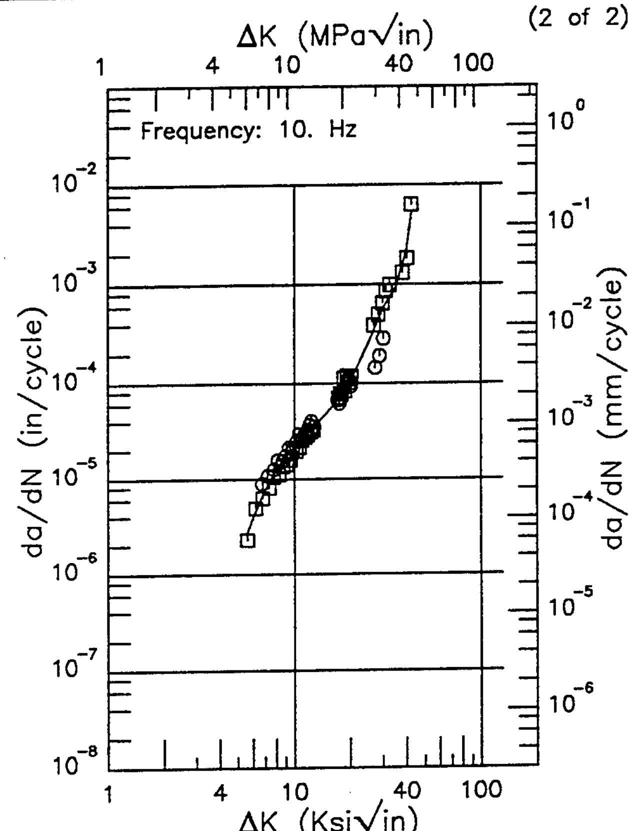


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.63 (min)	4.21
6.	5.69
7.	10.5
8.	16.3
9.	22.6
10.	29.5
13.	55.2
16.	96.4
20.	186.
25.	342.
30.	711.
35.	2211.
40.	3452.
40.16 (max)	3417.

RMS % Error: 10.66

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.57 (min)	2.64
6.	3.98
7.	7.95
8.	12.6
9.	17.4
10.	22.1
13.	36.9
16.	57.1
20.	107.
25.	257.
30.	577.
35.	916.
40.	2130.
42.38 (max)	5390.

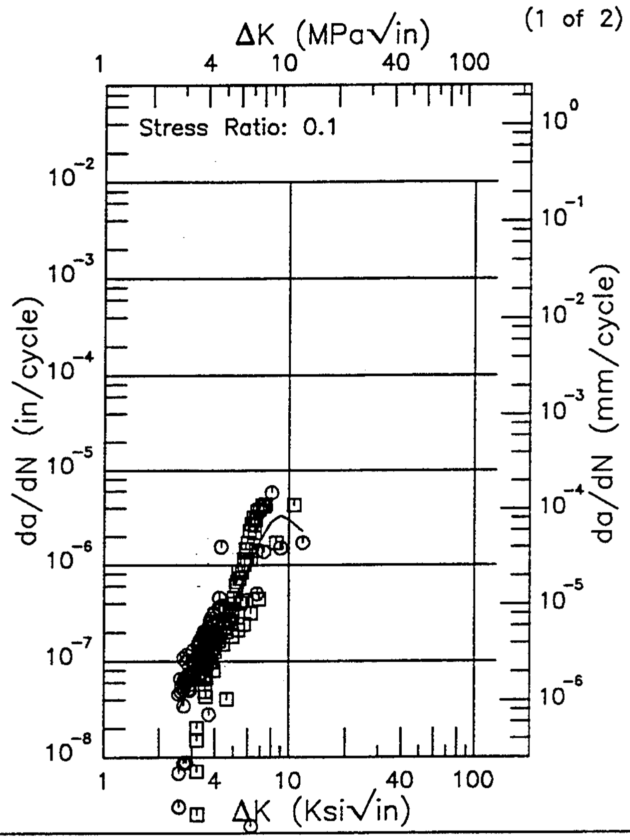
RMS % Error: 19.40

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

Figure 8.9.3.1.12

Condition/Ht: T651	Yield Strength:
Form:	Ult. Strength:
Specimen Type: CT	Specimen Thk: 0.5 in.
Orientation: L–T	Specimen Width: 3 in.
Frequency: 2 – 5 Hz	Ref: WL005
Environment: LAB AIR; RT	

(1 of 2)



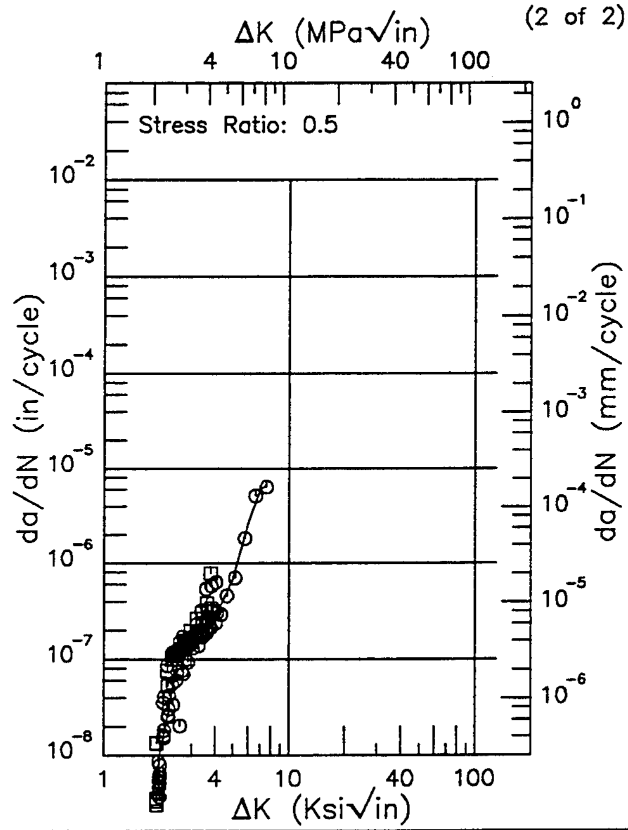
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.54 (min)	0.0311
3.	0.0612
3.5	0.108
4.	0.173
5.	0.402
6.	0.902
7.	1.82
8.	2.85
9.	3.30
10.	3.04
11.77 (max)	2.29

RMS % Error 75.73

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.92 (min)	0.00530
2.	0.0105
2.5	0.0966
3.	0.189
3.5	0.230
4.	0.274
5.	0.677
6.	2.57
7.	5.97
7.53 (max)	6.72

RMS % Error 61.13

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

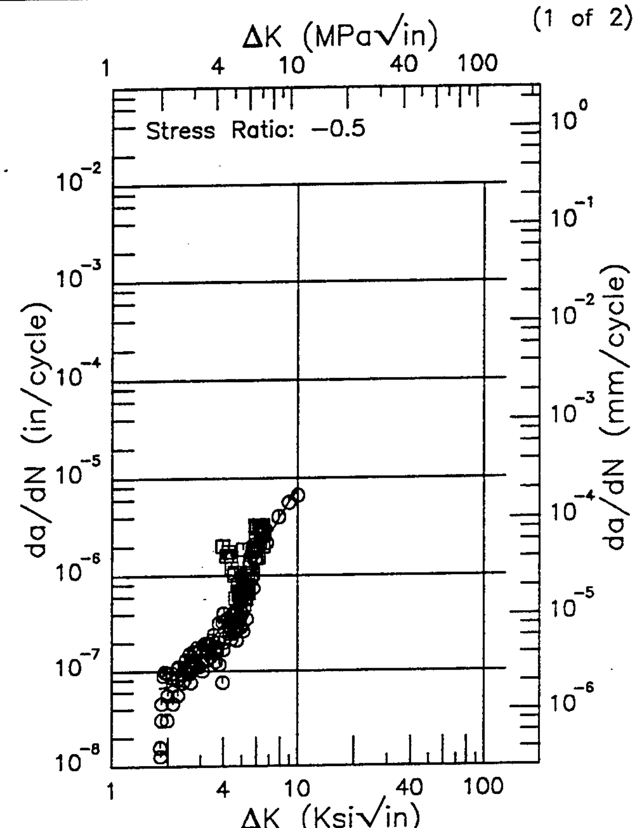
Figure 8.9.3.1.13

R — 7075

Condition/Ht: T651
Form:
Specimen Type: CCP (max load specified)
Orientation: L-T
Frequency: 2 – 5 Hz
Environment: LAB AIR; RT

Yield Strength:
Ult. Strength:
Specimen Thk: 0.25 in.
Specimen Width: 3.9 in.
Ref: WL005

(1 of 2)



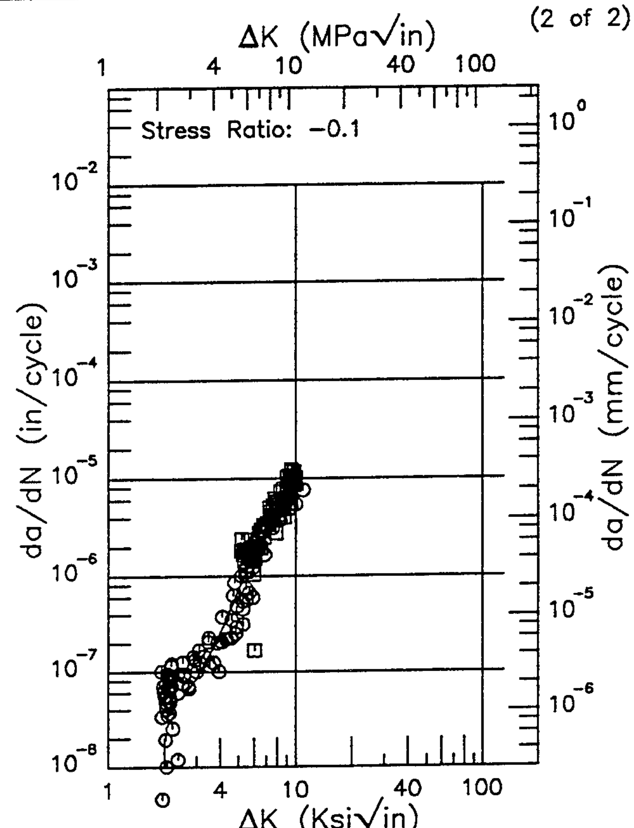
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.81 (min)	0.0667
2.	0.0676
2.5	0.0879
3.	0.133
3.5	0.208
4.	0.326
5.	0.739
6.	1.47
7.	2.59
8.	4.07
9.	5.83
9.96 (max)	7.64

RMS % Error 74.87

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.92 (min)	0.0461
2.	0.0450
2.5	0.0535
3.	0.0850
3.5	0.148
4.	0.260
5.	0.721
6.	1.64
7.	3.07
8.	4.81
9.	6.48
10.	7.70
10.91 (max)	8.21

RMS % Error 51.15

Life Prediction Ratio Summary

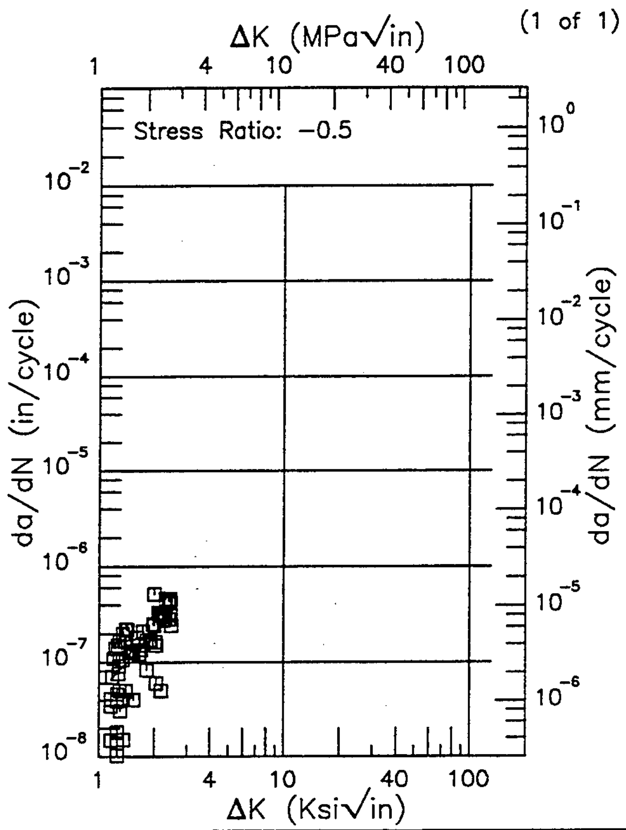
0. .5 .8 1.25 2.

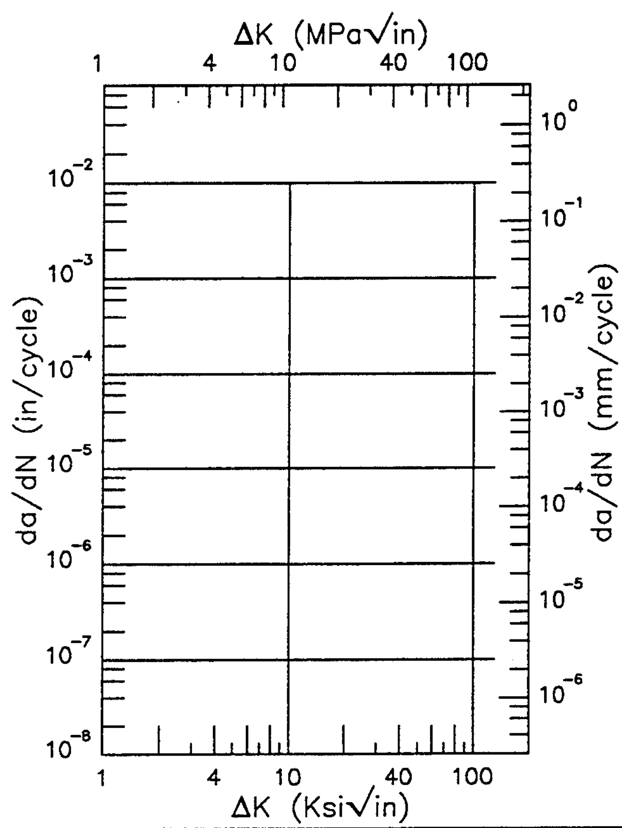
Figure 8.9.3.1.14

Condition/Ht: T651
Form:
Specimen Type: CCP (max load specified)
Orientation: L–T
Frequency: 2 – 5 Hz
Environment: LAB AIR; RT

Yield Strength:
Ult. Strength:
Specimen Thk: 0.5 in.
Specimen Width: 3.9 in.
Ref: WL005

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.16 (min)	0.0663
1.3	0.0842
1.6	0.125
2.	0.198
2.45 (max)	0.413

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
57.62	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

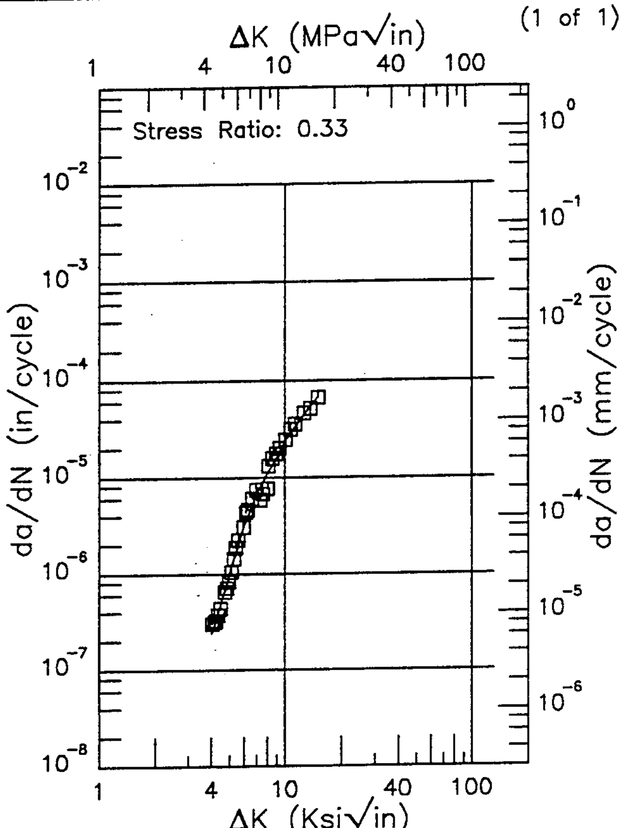
Figure 8.9.3.1.15

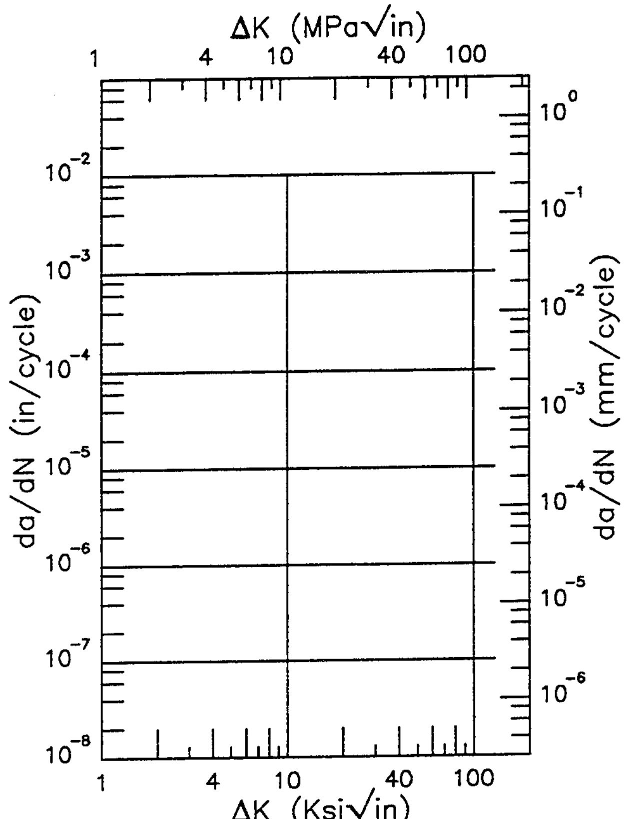
R 7075

Condition/Ht: T651
Form: 2.75 in. Plate
Specimen Type: CT
Orientation: L–T
Frequency: 20 Hz
Environment: H.H.A.; RT

Yield Strength: 68.8 ksi
Ult. Strength: 79.6 ksi
Specimen Thk: 0.247 in.
Specimen Width: 2 in.
Ref: AL005

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.03 (min)	0.239
5.	1.01
6.	3.19
7.	6.82
8.	11.0
9.	16.2
10.	24.0
13.	48.0
14.95 (max)	66.6

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
13.77

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

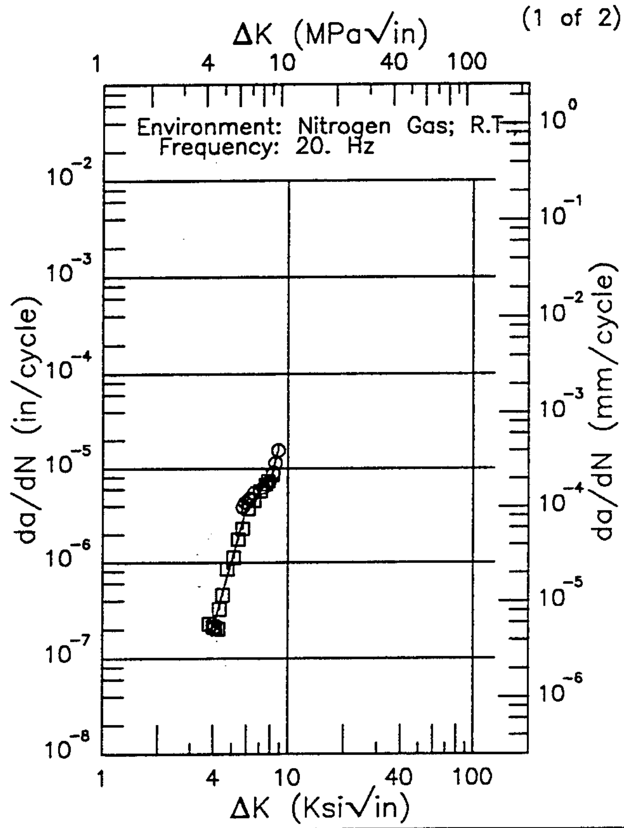
0. .5 .8 1.25 2.

Figure 8.9.3.1.16

Condition/Ht: T651
Form: 1 in. Plate
Specimen Type: CT
Orientation: T–L
Stress Ratio: 0.5

Yield Strength: 70 ksi
Ult. Strength:
Specimen Thk: 0.514 – 0.515 in.
Specimen Width: 1.029 – 1.032 in.
Ref: MR001

(1 of 2)

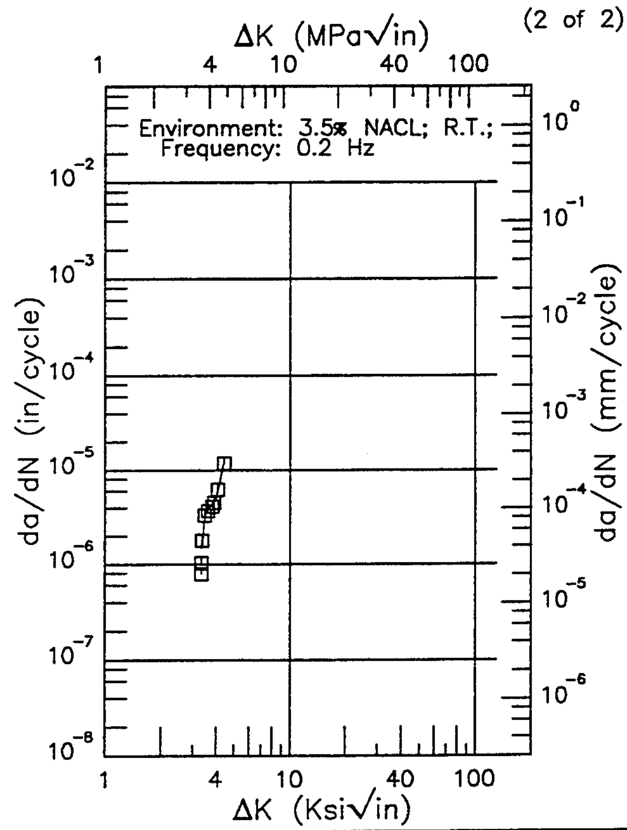


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.78 (min)	0.185
4.	0.220
5.	1.05
6.	3.86
7.	5.72
8.	7.59
8.80 (max)	15.2

RMS % Error: 16.30

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.33 (min)	1.51
3.5	3.47
4.	5.06
4.40 (max)	11.6

RMS % Error: 20.07

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

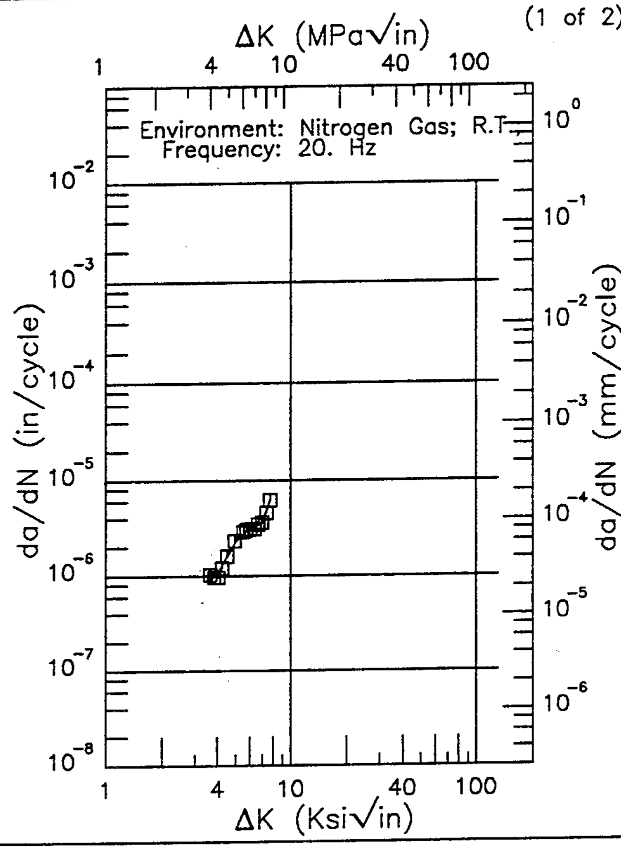
Figure 8.9.3.1.17

EF 7075

Condition/Ht: T651
Form: 1 in. Plate
Specimen Type: CT
Orientation: S-T
Stress Ratio: 0.5

Yield Strength: 70 ksi
Ult. Strength:
Specimen Thk: 0.51 – 0.511 in.
Specimen Width: 1.022 – 1.029 in.
Ref: MR001

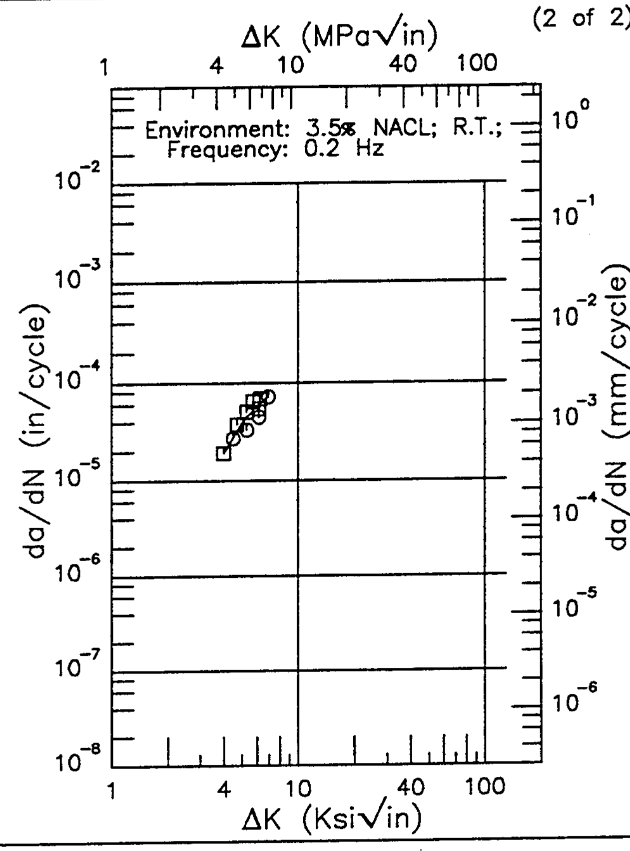
(1 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.63 (min)	0.928
4.	1.05
5.	2.24
6.	3.15
7.	3.58
7.75 (max)	6.37

RMS % Error	Life Prediction Ratio Summary
5.51	0. .5 .8 1.25 2.

(2 of 2)



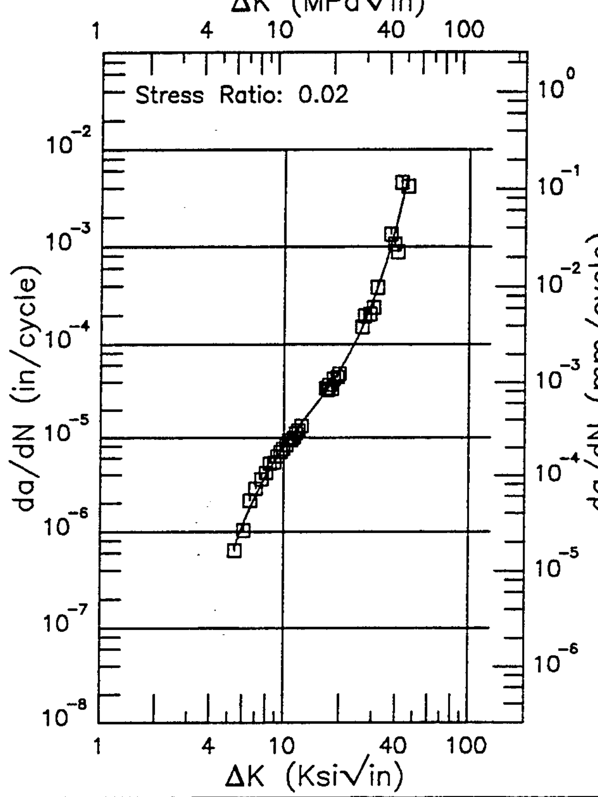
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.99 (min)	19.3
4.	19.5
5.	39.5
6.	58.9
6.92 (max)	73.4

RMS % Error	Life Prediction Ratio Summary
15.53	0. .5 .8 1.25 2.

Figure 8.9.3.1.18

Condition/Ht: T651	
Form: 1 in. Plate	Yield Strength: 73.5 ksi
Specimen Type: CCP (max load specified)	Ult. Strength: 84 ksi
Orientation: L–T	Specimen Thk: 0.25 in.
Frequency: 10 Hz	Specimen Width: 3.9 in.
Environment: LAB AIR; RT	Ref: MA009

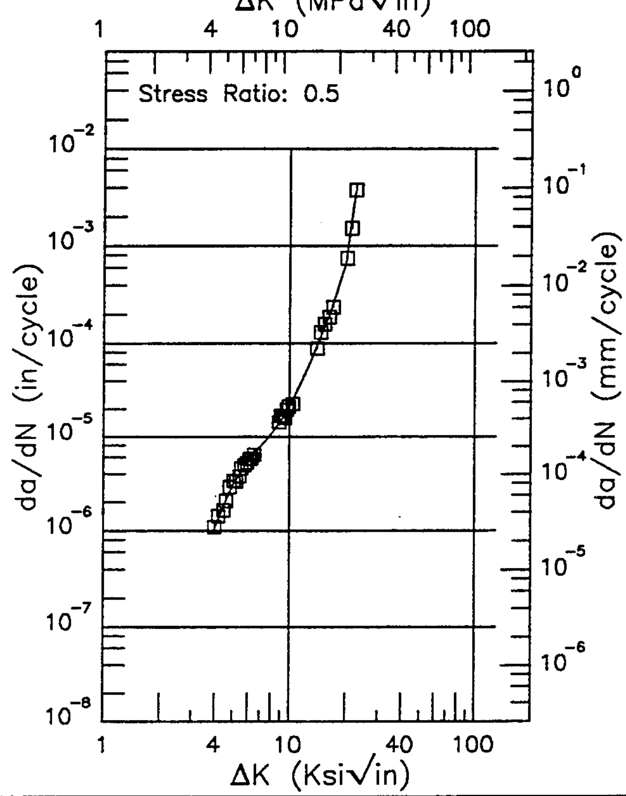
(1 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.43 (min)	0.684
6.	1.17
7.	2.36
8.	3.94
9.	5.84
10.	8.02
13.	16.2
16.	27.8
20.	53.6
25.	121.
30.	284.
35.	685.
40.	1700.
46.03 (max)	5224.

RMS % Error	Life Prediction Ratio Summary
18.19	0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.97 (min)	1.01
4.	1.06
5.	3.02
6.	5.33
7.	7.79
8.	10.7
9.	14.7
10.	20.8
13.	65.5
16.	176.
20.	658.
22.52 (max)	3608.

RMS % Error	Life Prediction Ratio Summary
7.15	0. .5 .8 1.25 2.

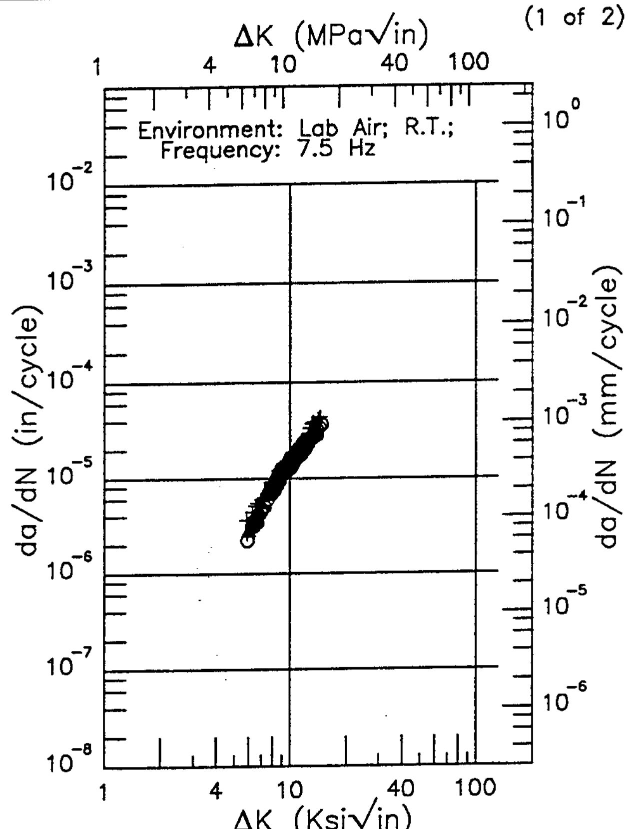
Figure 8.9.3.1.19

EF 7075

Condition/Ht: T651
Form: 2.75 in. Plate
Specimen Type: CCP (max load specified)
Orientation: L–T
Stress Ratio: 0.33

Yield Strength: 68.8 ksi
Ult. Strength: 79.6 ksi
Specimen Thk: 0.25 – 0.252 in.
Specimen Width: 3.999 – 4 in.
Ref: AL005

(1 of 2)



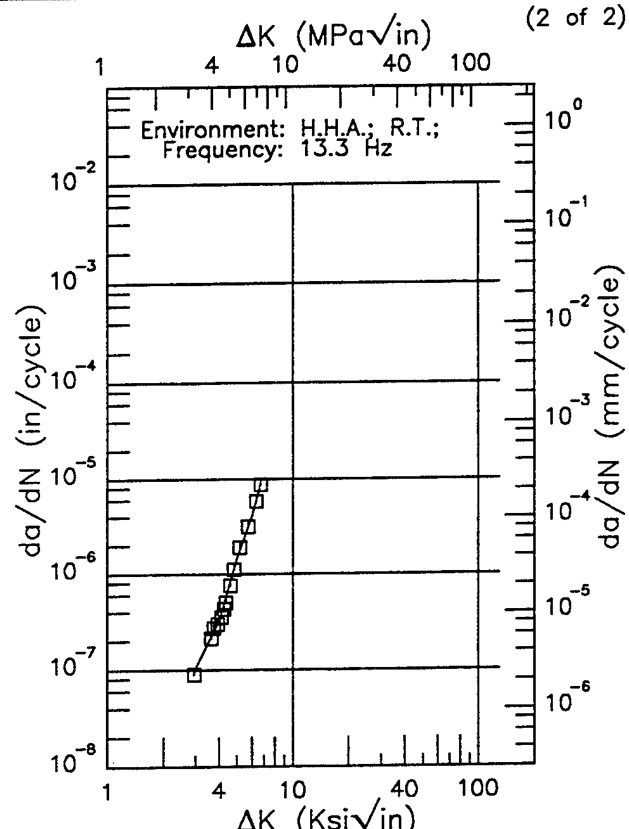
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.84 (min)	2.54
6.	2.88
7.	5.34
8.	8.21
9.	11.4
10.	14.9
13.	29.8
14.61 (max)	43.2

RMS % Error 13.60

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.93 (min)	0.0889
3.	0.102
3.5	0.194
4.	0.320
5.	1.45
6.	4.08
6.67 (max)	9.01

RMS % Error 6.13

Life Prediction Ratio Summary

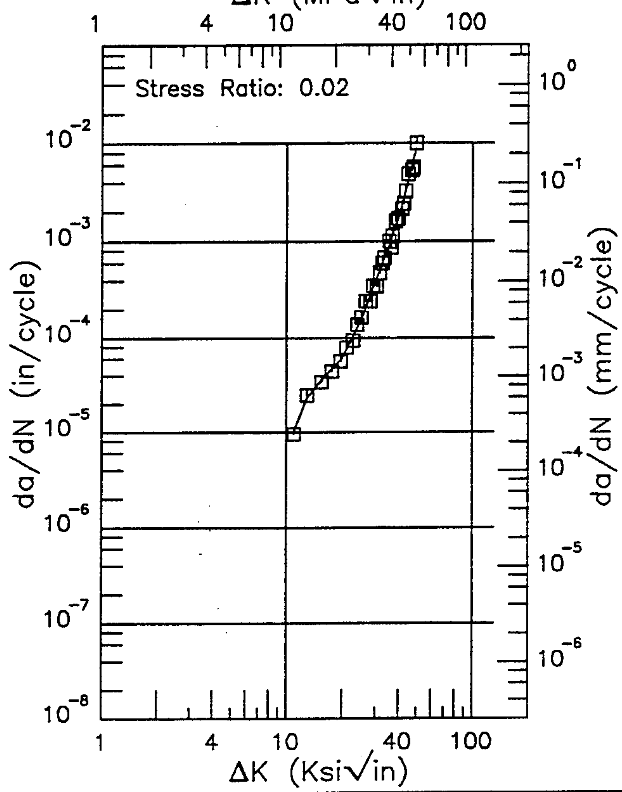
0. .5 .8 1.25 2.

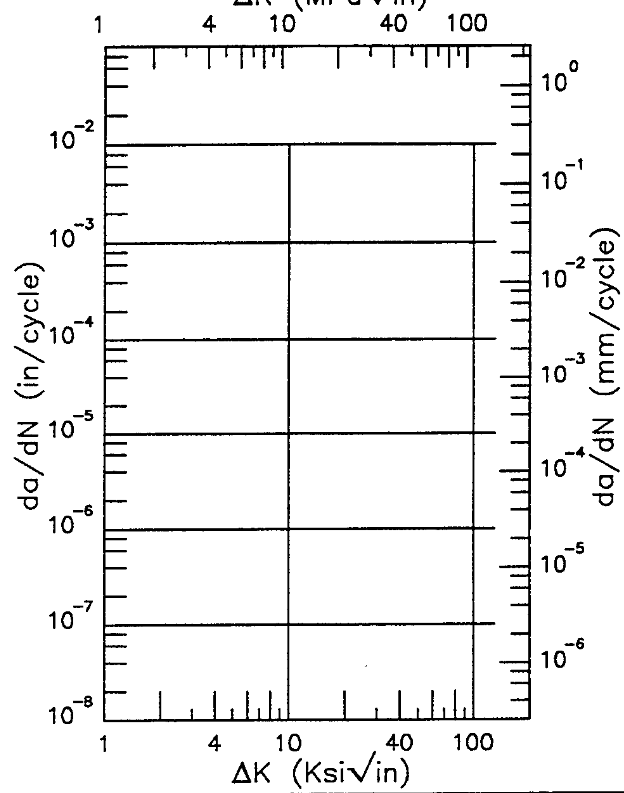
Figure 8.9.3.1.20

Condition/Ht: T651
Form: 0.3 in. Plate
Specimen Type: CCP (max stress specified)
Orientation: L–T
Frequency: 0.1 – 30 Hz
Environment: LAB AIR; RT

Yield Strength: 78.5 ksi
Ult. Strength: 84.5 ksi
Specimen Thk: 0.15 in.
Specimen Width: 3.9 in.
Ref: MA008

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
10.91 (min)	9.84
13.	23.5
16.	38.6
20.	61.6
25.	154.
30.	392.
35.	841.
40.	1794.
49.76 (max)	8668.

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error	Life Prediction Ratio Summary
9.59	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

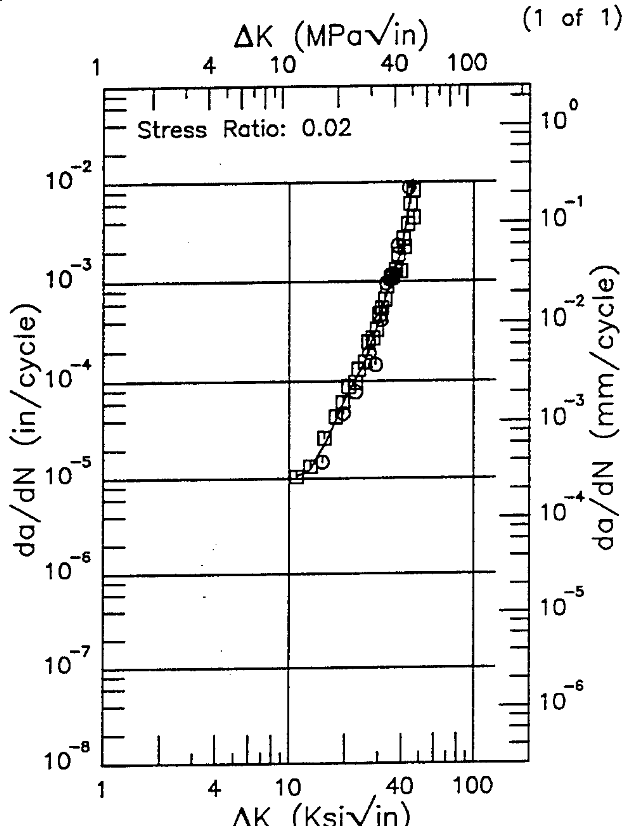
Figure 8.9.3.1.21

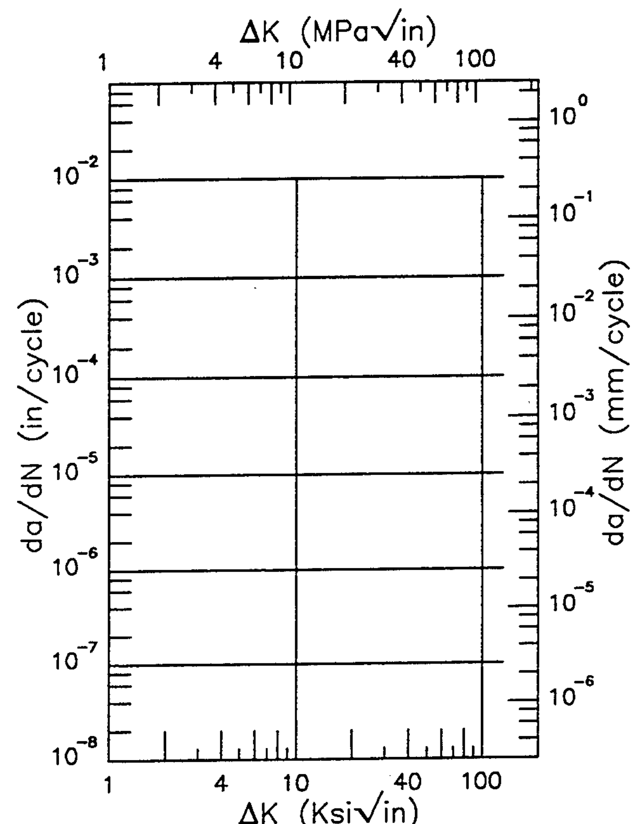
R — 7075

Condition/Ht: T651
Form: 0.3 in. Plate
Specimen Type: CCP (max stress specified)
Orientation: L–T
Frequency: 0.1 – 30 Hz
Environment: LAB AIR; RT

Yield Strength: 78.5 ksi
Ult. Strength: 84.5 ksi
Specimen Thk: 0.25 in.
Specimen Width: 3.9 in.
Ref: MA008

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
10.93 (min)	10.6
13.	12.5
16.	25.8
20.	65.7
25.	147.
30.	375.
35.	1026.
40.	2022.
46.21 (max)	10648.

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error
23.02

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

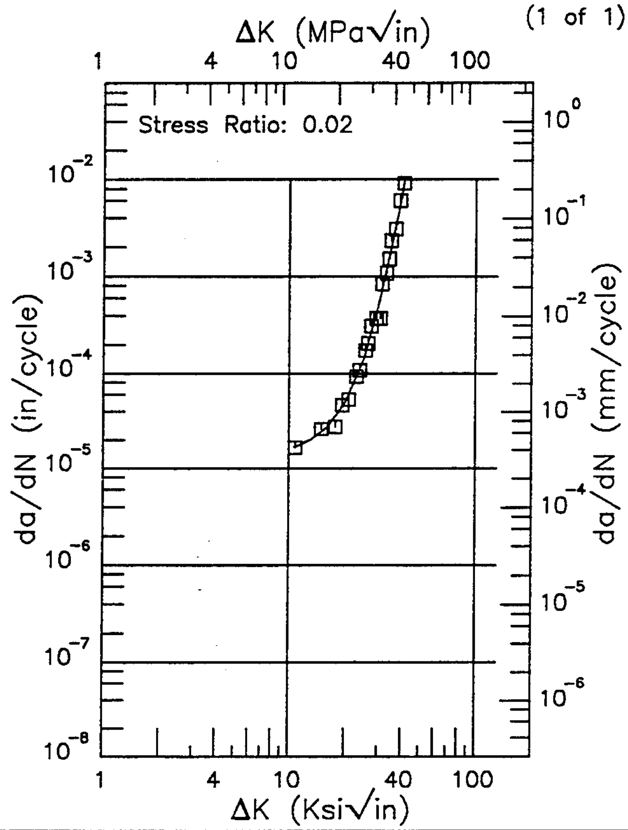
0. .5 .8 1.25 2.

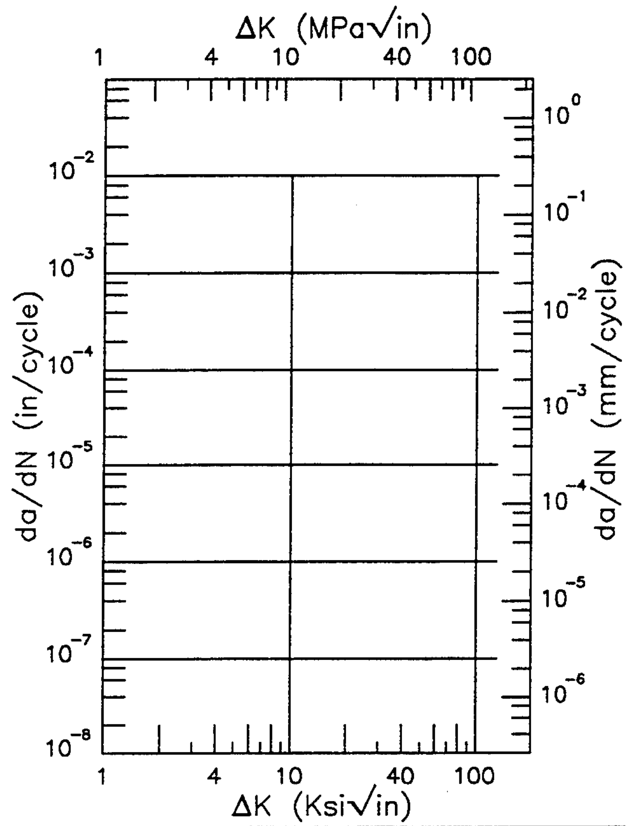
Figure 8.9.3.1.22

Condition/Ht: T651
Form: 0.63 in. Plate
Specimen Type: CCP (max stress specified)
Orientation: L-T
Frequency: 0.1 – 30 Hz
Environment: LAB AIR; RT

Yield Strength: 75.5 ksi
Ult. Strength: 84.5 ksi
Specimen Thk: 0.5 in.
Specimen Width: 3.9 in.
Ref: MA008

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
10.77 (min)	16.8
13.	20.1
16.	27.2
20.	49.4
25.	140.
30.	506.
35.	1960.
40.	7313.
41.01 (max)	9457.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
13.06	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

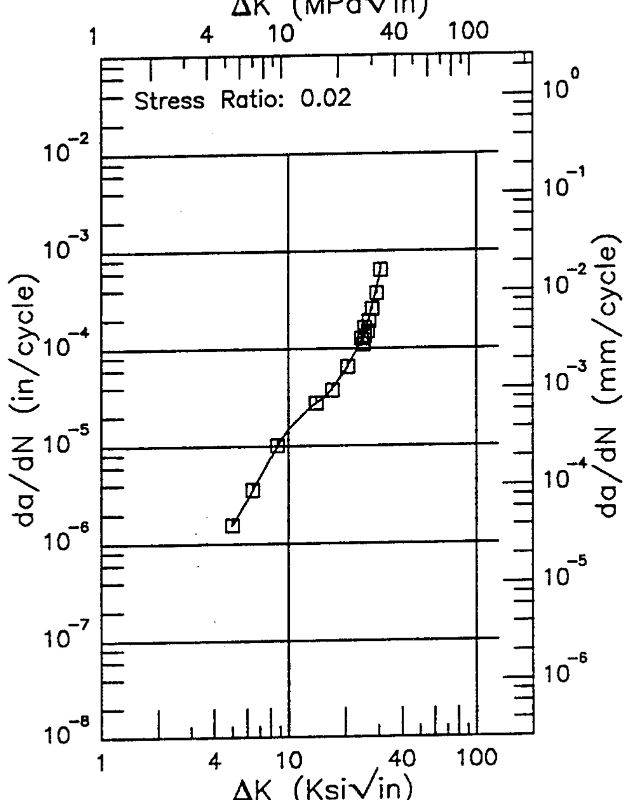
Figure 8.9.3.1.23

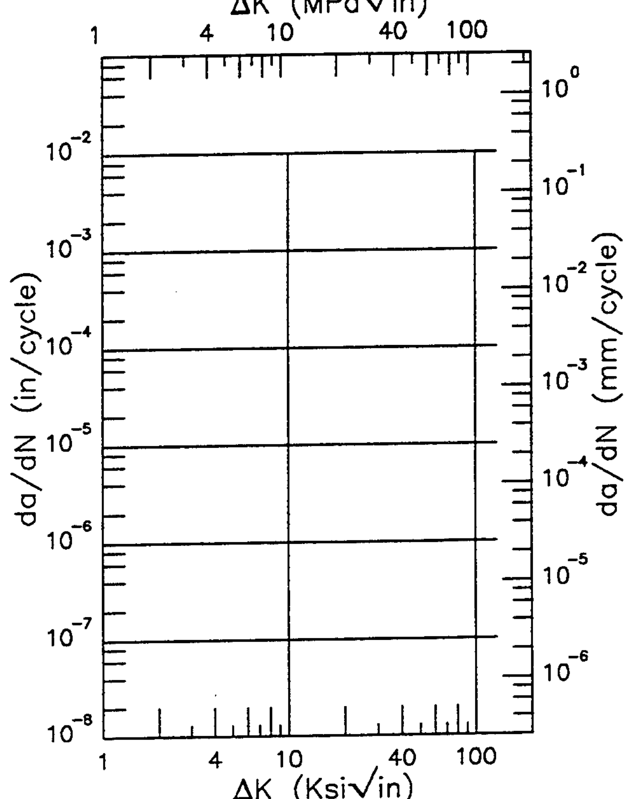
R 7075

Condition/Ht: T651
Form: 2.5 in. Plate
Specimen Type: WOL
Orientation: L-T
Frequency:
Environment: LAB AIR; RT

Yield Strength: 75.5 ksi
Ult. Strength: 85 ksi
Specimen Thk: 1.25 in.
Specimen Width:
Ref: MA012

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.98 (min)	1.55
5.	1.57
6.	2.78
7.	4.76
8.	7.57
9.	11.1
10.	15.0
13.	24.9
16.	33.5
20.	59.2
25.	137.
30.	509.
30.45 (max)	615.

ΔK (Ksi√in) da/dN (10^{-6}in/cycle)

RMS % Error
10.41

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

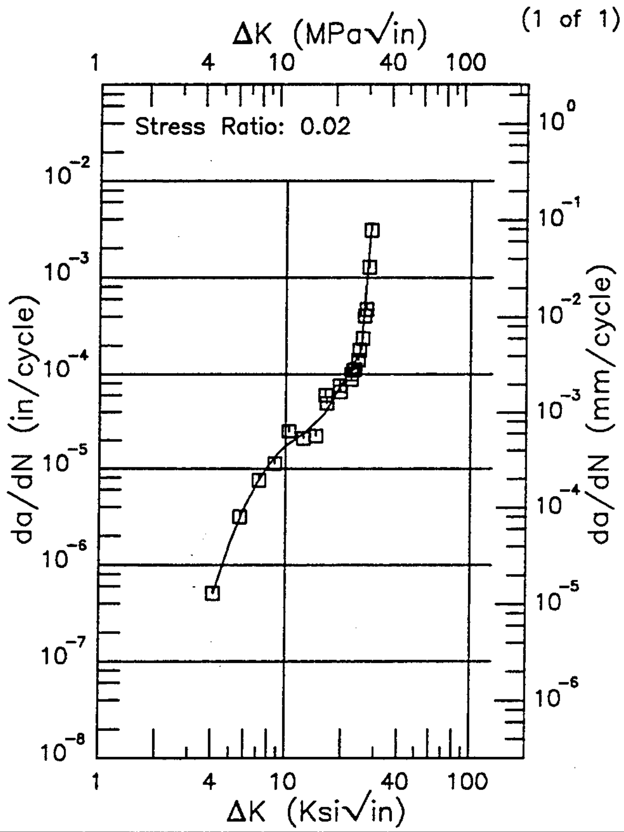
0. .5 .8 1.25 2.

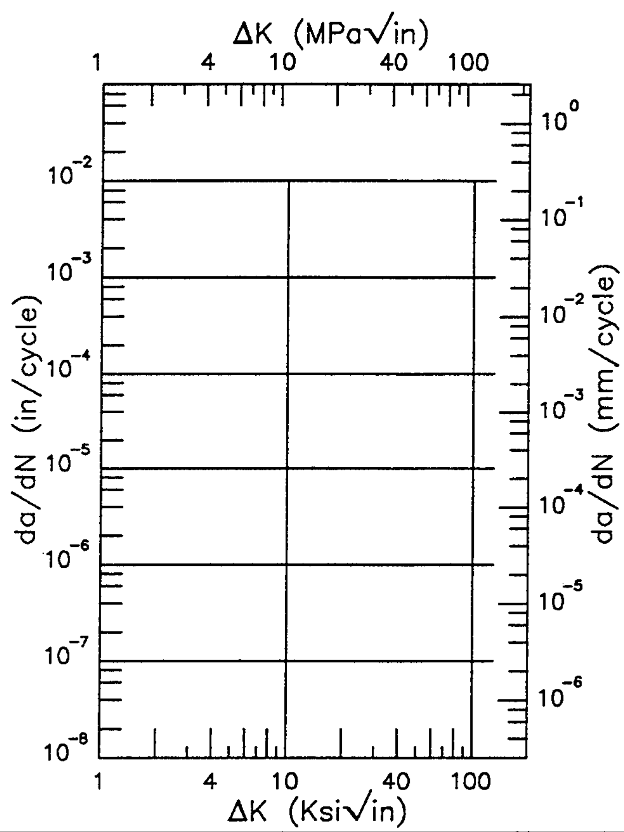
Figure 8.9.3.1.24

Condition/Ht: T651
Form: 2.5 in. Plate
Specimen Type: WOL
Orientation: L–T
Frequency: 1 – 30 Hz
Environment: LAB AIR; RT

Yield Strength: 75.5 ksi
Ult. Strength: 86.5 ksi
Specimen Thk: 1.25 in.
Specimen Width: 5 in.
Ref: MA011

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.07 (min)	0.508
5.	1.69
6.	3.98
7.	7.12
8.	10.7
9.	14.2
10.	17.3
13.	25.0
16.	38.2
20.	80.1
25.	176.
28.27 (max)	2937.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
21.23	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.9.3.1.25

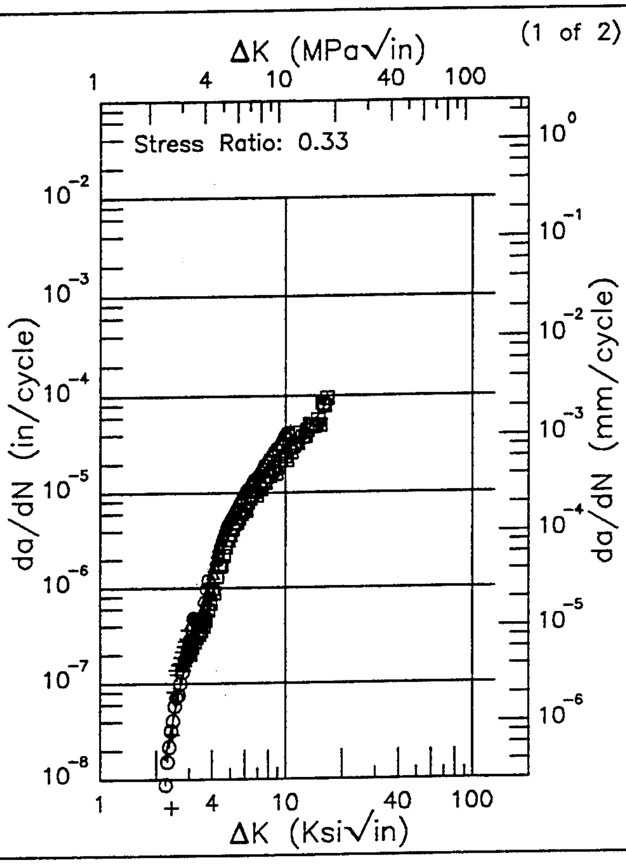
R

7075

Condition/Ht: T651
Form: 0.25 – 0.75 in. Plate
Specimen Type: WOL
Orientation: L–T
Frequency: 25 Hz
Environment: H.H.A.; RT

Yield Strength:
Ult. Strength:
Specimen Thk: 0.249 – 0.254 in.
Specimen Width: 2.548 – 2.555 in.
Ref: AL005

(1 of 2)



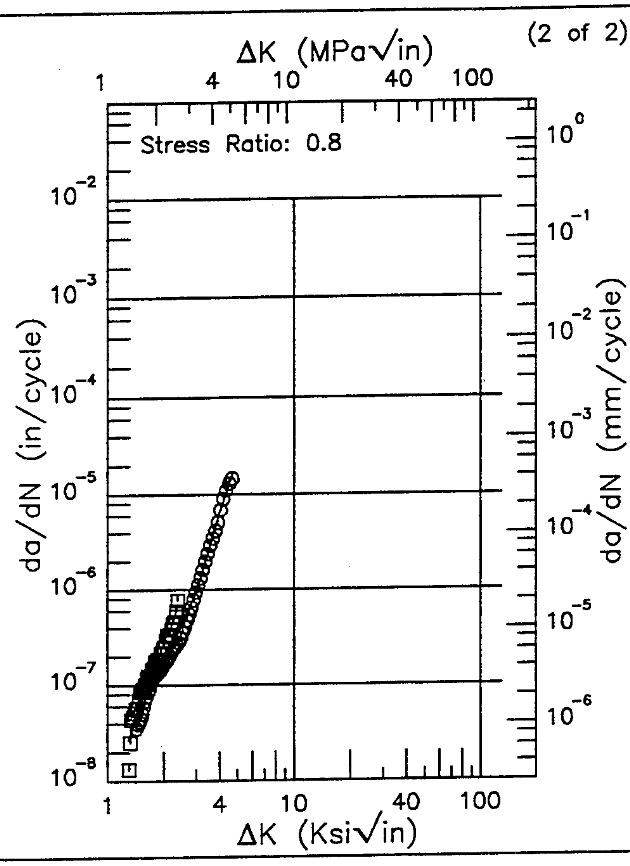
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.23 (min)	0.0161
2.5	0.0494
3.	0.228
3.5	0.664
4.	1.45
5.	4.19
6.	8.30
7.	13.4
8.	18.8
9.	24.1
10.	28.7
13.	42.2
16.	77.9
16.58 (max)	95.0

RMS % Error
35.88

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.29 (min)	0.0266
1.3	0.0281
1.6	0.0906
2.	0.217
2.5	0.423
3.	0.935
3.5	2.68
4.	6.64
4.65 (max)	15.3

RMS % Error
26.64

Life Prediction Ratio Summary

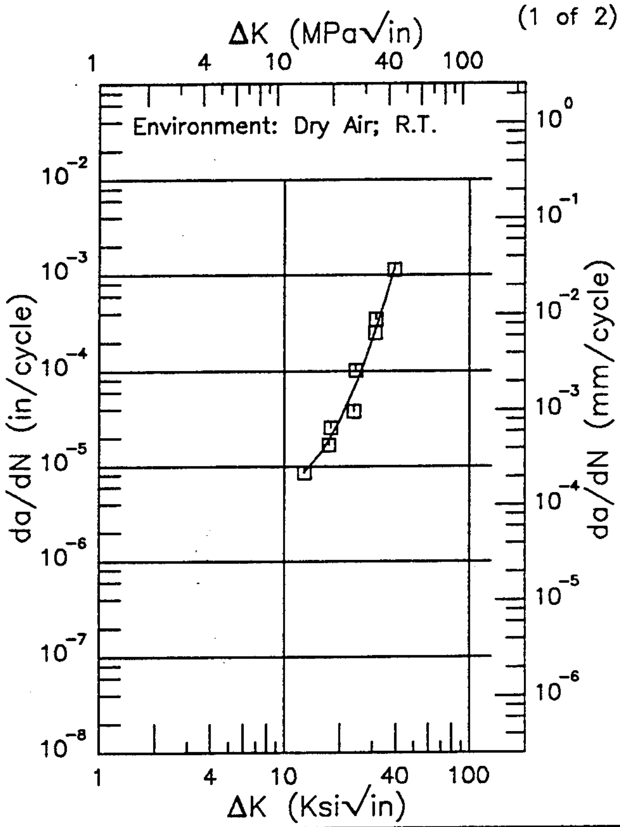
0. .5 .8 1.25 2.

Figure 8.9.3.1.26

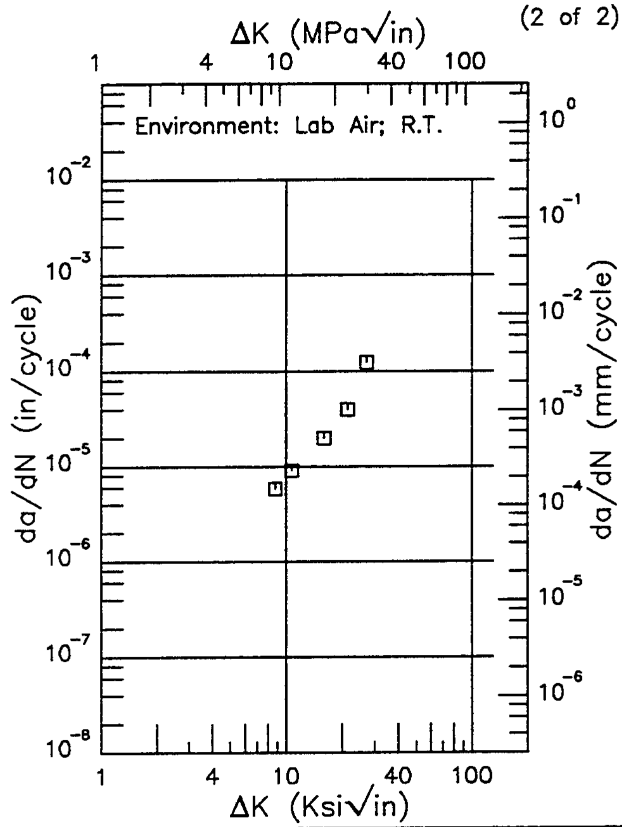
Condition/Ht: T651
Form: 3 in. Plate
Specimen Type: DCB
Orientation: L-T
Stress Ratio: 0.02
Frequency: 1 Hz

Yield Strength: 70.2 – 75.7 ksi
Ult. Strength: 81.2 – 85 ksi
Specimen Thk: 0.75 in.
Specimen Width: 5.5 in.
Ref: 84360

(1 of 2)



(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
12.79 (min)	8.74
13.	8.99
16.	14.4
20.	30.3
25.	80.7
30.	213.
35.	544.
39.37 (max)	1194.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
24.05	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

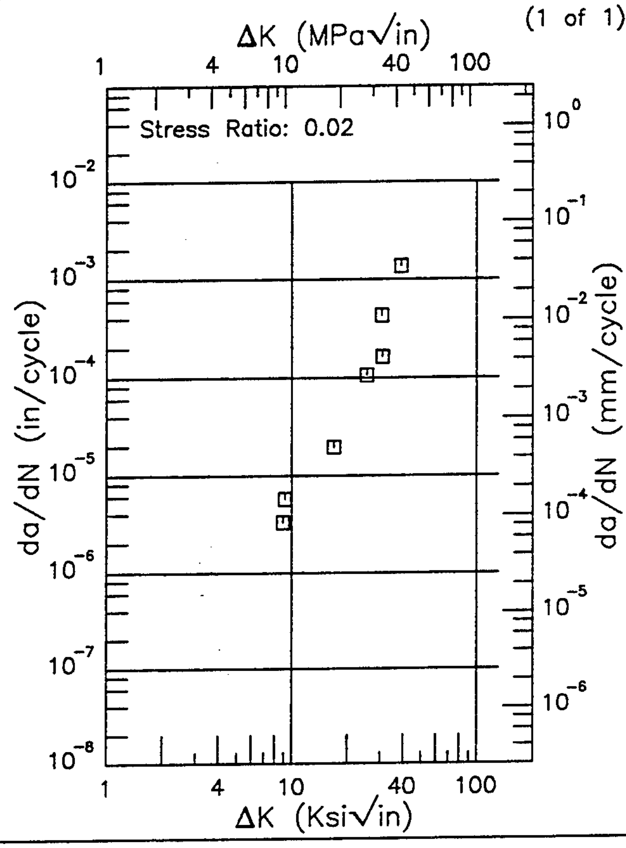
Figure 8.9.3.1.27

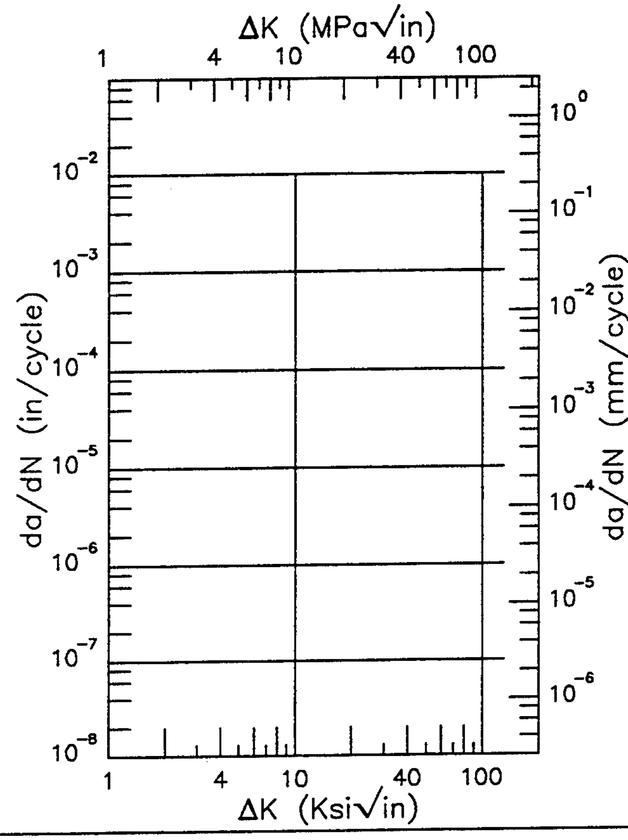
R 7075

Condition/Ht: T651
Form: 3 in. Plate
Specimen Type: DCB
Orientation: L–T
Frequency: 10 Hz
Environment: DRY AIR; RT

Yield Strength: 75.7 ksi
Ult. Strength: 85 ksi
Specimen Thk: 0.75 in.
Specimen Width: 5.5 in.
Ref: 84360

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)	ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

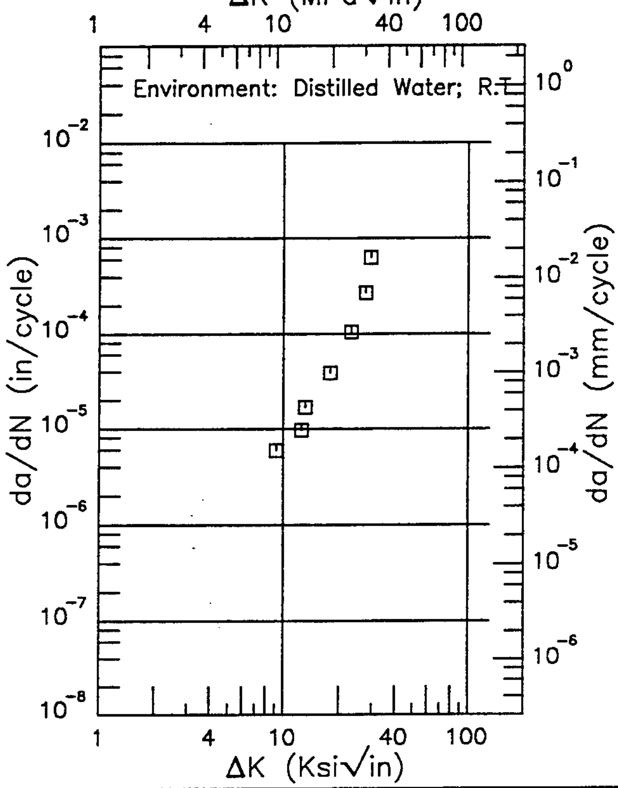
RMS % Error	Life Prediction Ratio Summary 0. .5 .8 1.25 2.	RMS % Error	Life Prediction Ratio Summary 0. .5 .8 1.25 2.

Figure 8.9.3.1.28

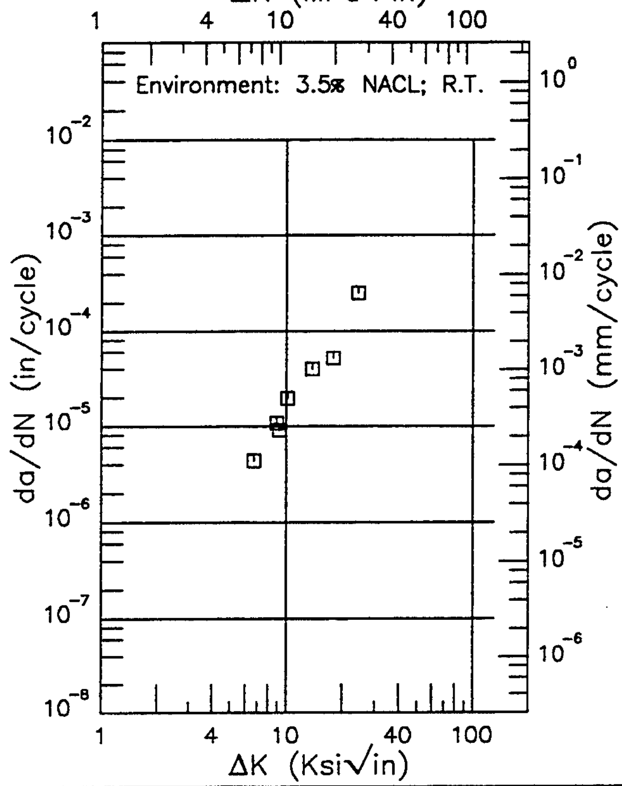
Condition/Ht: T651
Form: 3 in. Plate
Specimen Type: DCB
Orientation: L–T
Stress Ratio: 0.02
Frequency: 1 Hz

Yield Strength: 70.2 ksi
Ult. Strength: 81.2 ksi
Specimen Thk: 1 in.
Specimen Width: 5.5 in.
Ref: 84360

(1 of 2)



(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)	ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary	RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.		0. .5 .8 1.25 2.

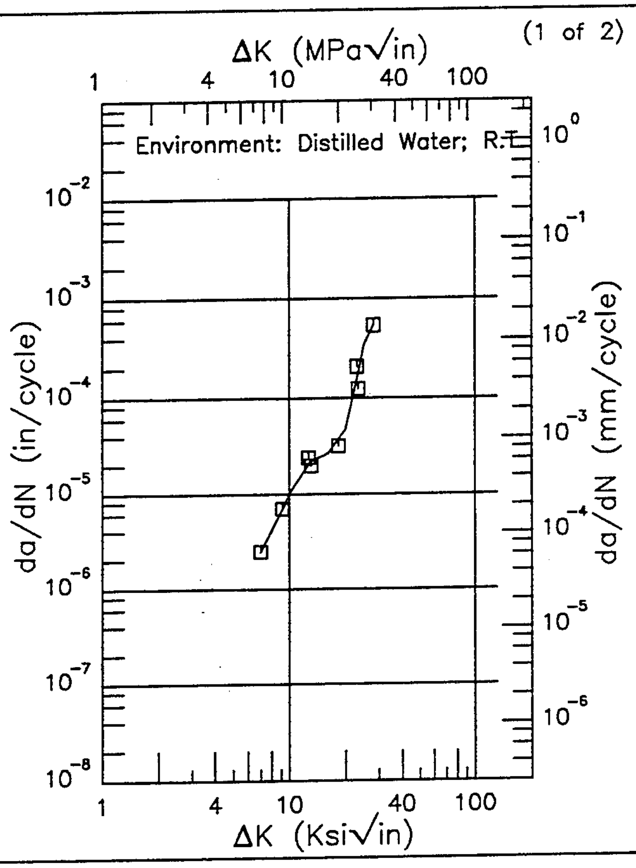
Figure 8.9.3.1.29

E

7075

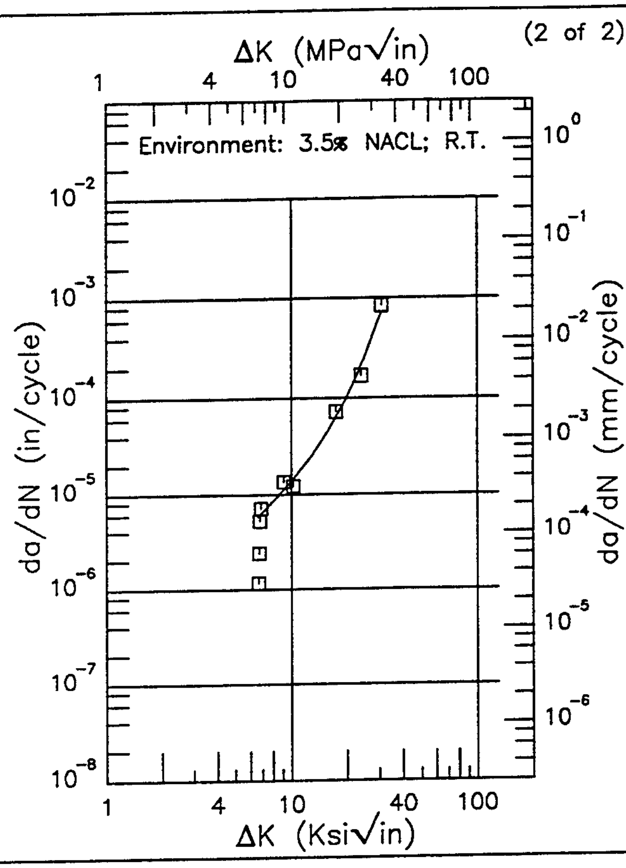
Condition/Ht: T651
Form: 3 in. Plate
Specimen Type: DCB
Orientation: L–T
Stress Ratio: 0.02
Frequency: 10 Hz

Yield Strength: 70.2 ksi
Ult. Strength: 81.2 ksi
Specimen Thk: 1 in.
Specimen Width: 5.5 in.
Ref: 84360



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
6.96 (min)	2.42
7.	2.47
8.	4.09
9.	6.63
10.	10.1
13.	22.3
16.	26.6
20.	47.9
25.	349.
28.02 (max)	531.

RMS % Error	Life Prediction Ratio Summary
17.16	0. .5 .8 1.25 2.



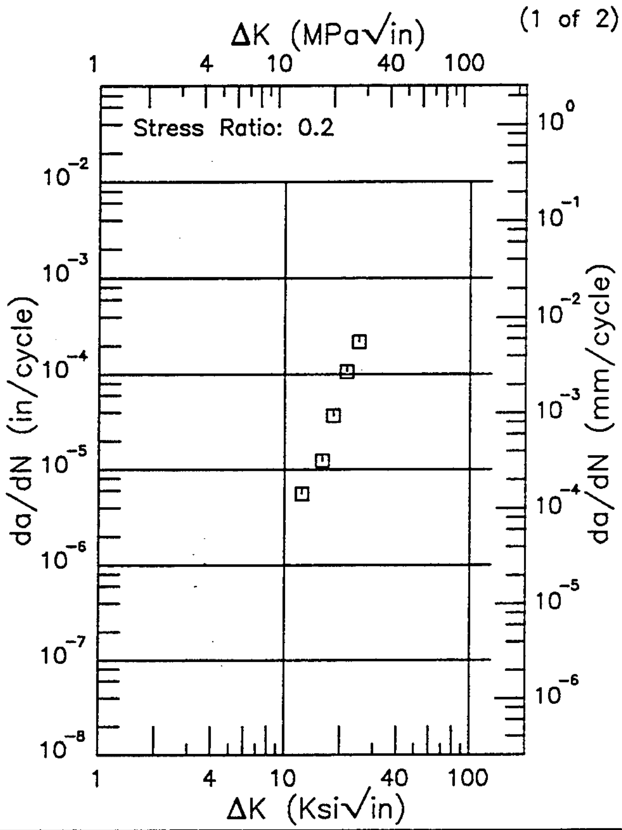
ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
6.63 (min)	5.87
7.	6.55
8.	8.59
9.	11.0
10.	13.8
13.	26.0
16.	47.2
20.	101.
25.	255.
30.	629.
30.64 (max)	705.

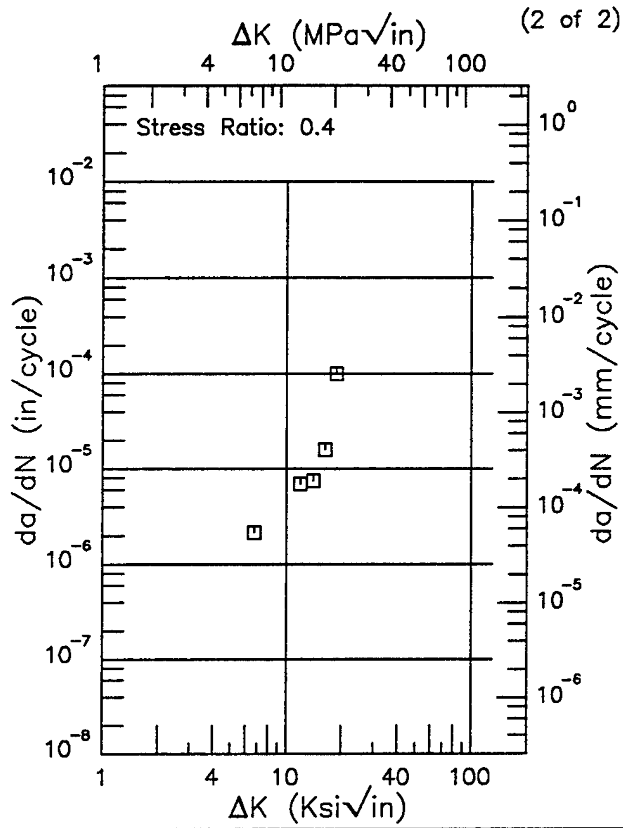
RMS % Error	Life Prediction Ratio Summary
36.78	0. .5 .8 1.25 2.

Figure 8.9.3.1.30

Condition/Ht: T651
Form: 3 in. Plate
Specimen Type: DCB
Orientation: L–T
Frequency: 10 Hz
Environment: DRY AIR; RT

Yield Strength: 70 ksi
Ult. Strength: 81 ksi
Specimen Thk: 0.625 in.
Specimen Width: 5.5 in.
Ref: 84360





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)	ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error	Life Prediction Ratio Summary	RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.		0. .5 .8 1.25 2.

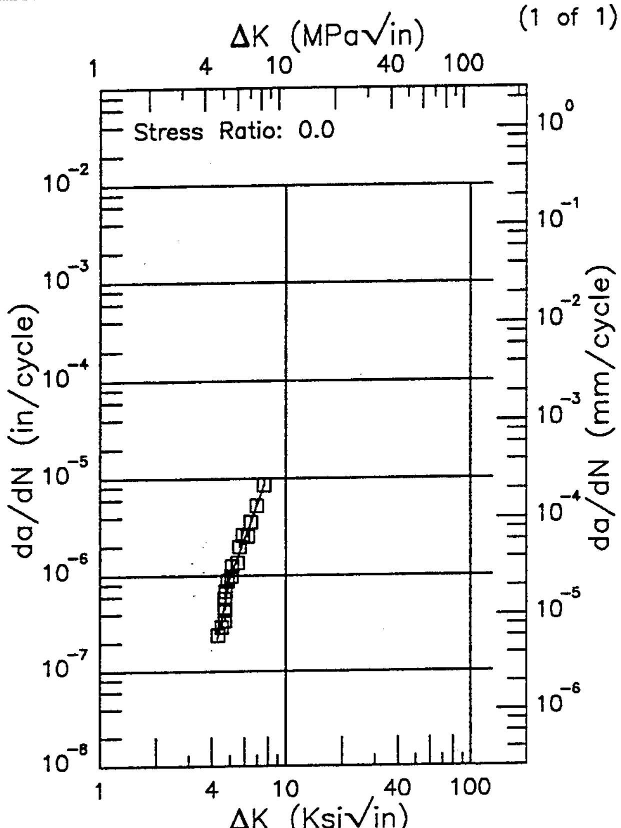
Figure 8.9.3.1.31

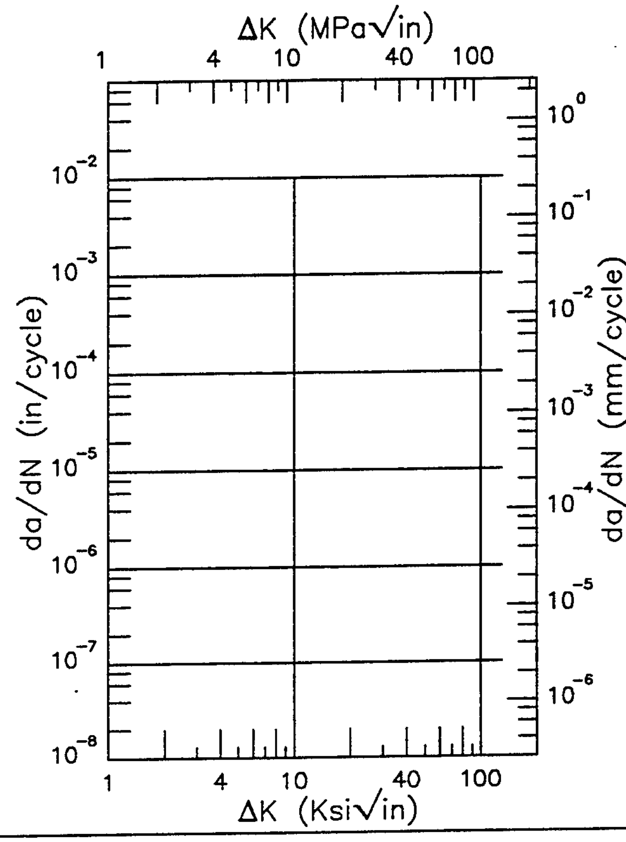
R 7075

Condition/Ht: T651
Form: 0.63 in. Plate
Specimen Type: DCB
Orientation: T–L
Frequency: 15 Hz
Environment: S.T.W.; RT

Yield Strength:
Ult. Strength:
Specimen Thk:
Specimen Width:
Ref: 88140

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
4.29 (min)	0.218
5.	0.974
6.	2.38
7.	5.40
7.62 (max)	8.51

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error	Life Prediction Ratio Summary
17.00	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.9.3.1.32

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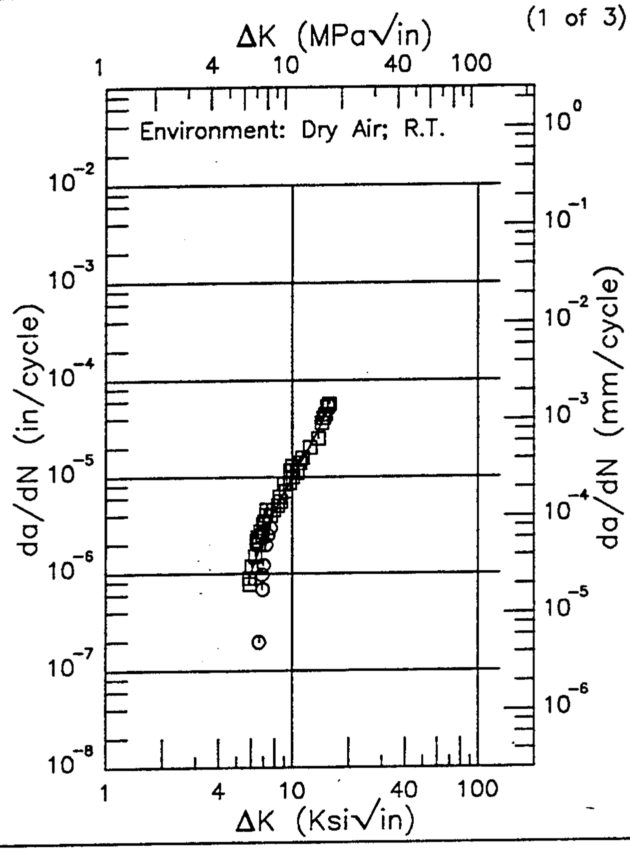
E — 7075

Condition/Ht: T651
Form: 0.63 in. Plate
Specimen Type: DCB
Orientation: T–L
Stress Ratio: 0.1
Frequency: 1 Hz

Yield Strength:
Ult. Strength:
Specimen Thk:
Specimen Width:
Ref: 88140

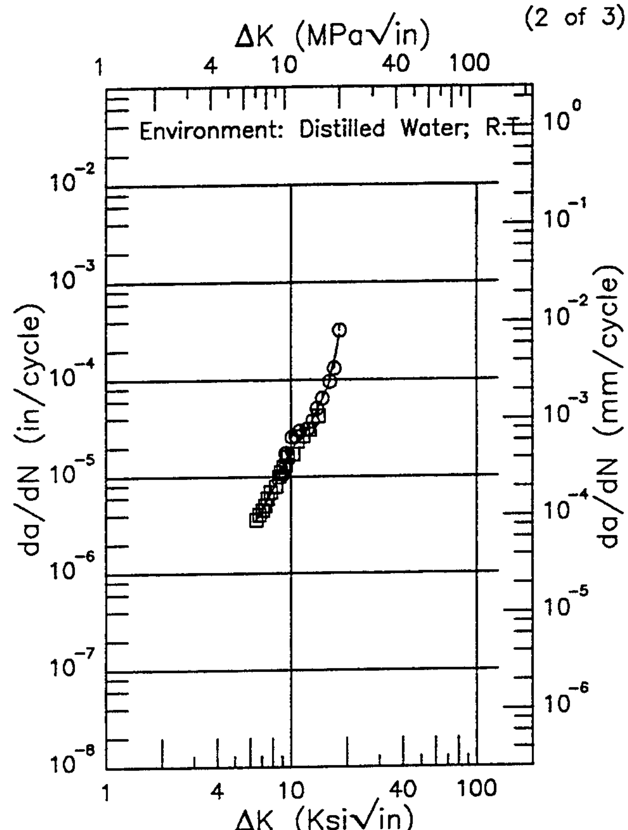
(1 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.81 (min)	0.821
6.	1.02
7.	2.44
8.	4.45
9.	6.96
10.	9.98
13.	24.2
15.70 (max)	52.7

RMS % Error	Life Prediction Ratio Summary
30.29	0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.49 (min)	3.64
7.	4.44
8.	7.39
9.	12.3
10.	18.8
13.	38.1
16.	88.8
18.17 (max)	295.

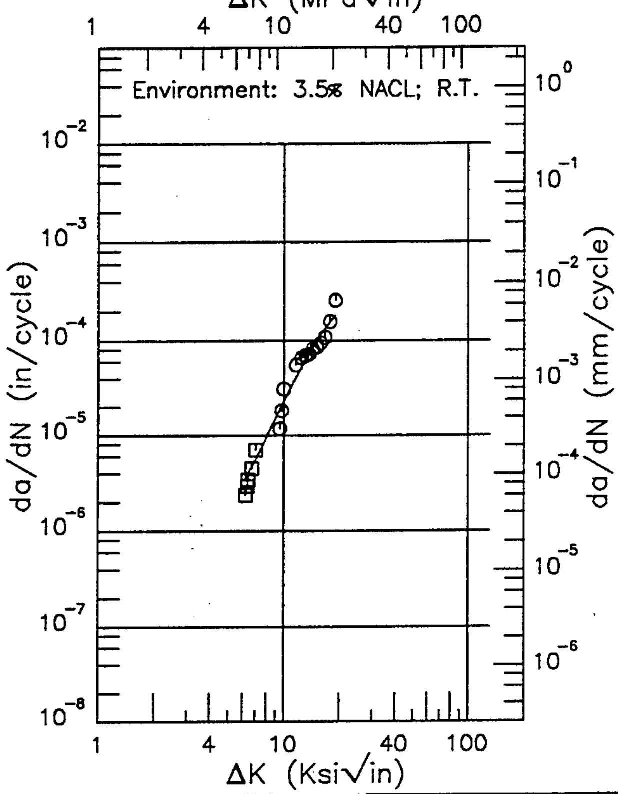
RMS % Error	Life Prediction Ratio Summary
11.91	0. .5 .8 1.25 2.

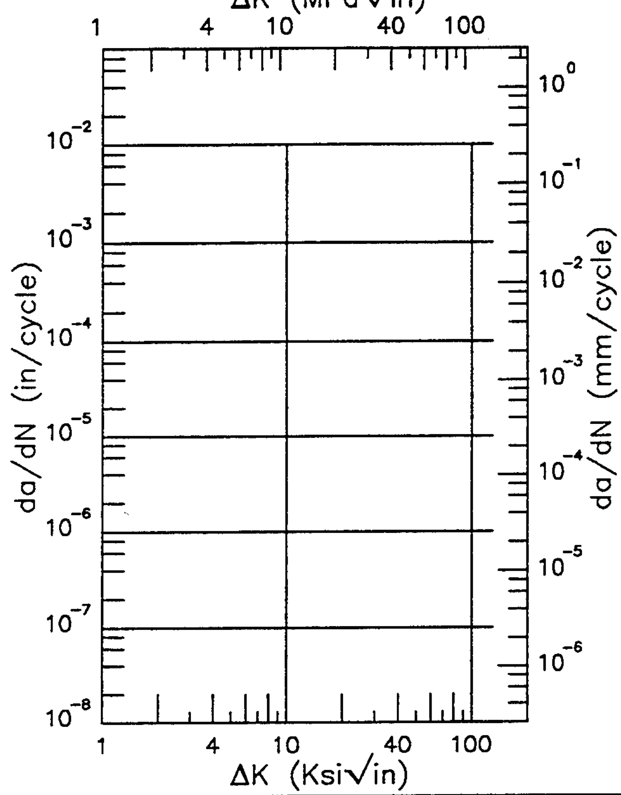
Figure 8.9.3.1.33

Condition/Ht: T651
Form: 0.63 in. Plate
Specimen Type: DCB
Orientation: T–L
Stress Ratio: 0.1
Frequency: 1 Hz

Yield Strength:
Ult. Strength:
Specimen Thk:
Specimen Width:
Ref: 88140

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.19 (min)	3.45
7.	5.51
8.	9.37
9.	15.1
10.	23.1
13.	62.4
16.	121.
18.87 (max)	181.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
23.56	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.9.3.1.33 (Concluded)

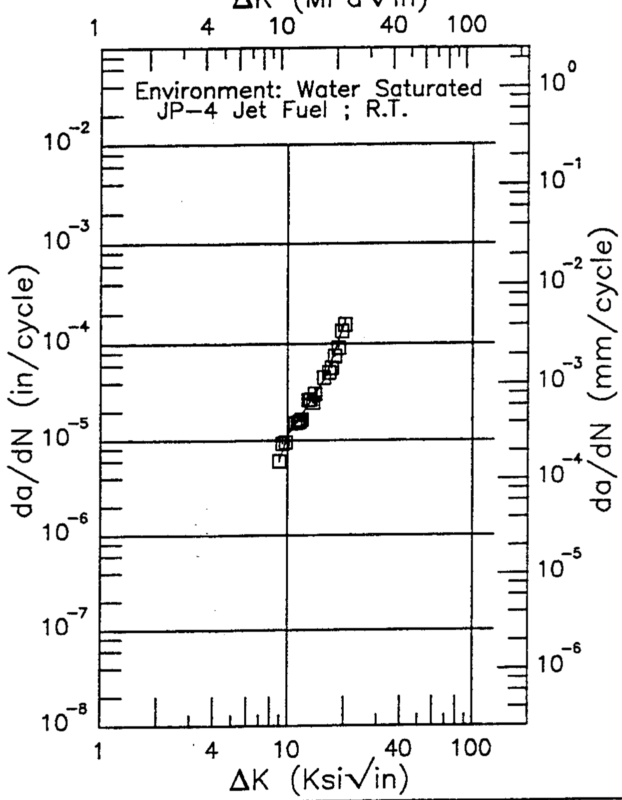
7075

E

Condition/Ht: T651
Form: 0.63 in. Plate
Specimen Type: DCB
Orientation: T–L
Stress Ratio: 0.1
Frequency: 0.1 Hz

Yield Strength:
Ult. Strength:
Specimen Thk:
Specimen Width:
Ref: 88140

(1 of 4)



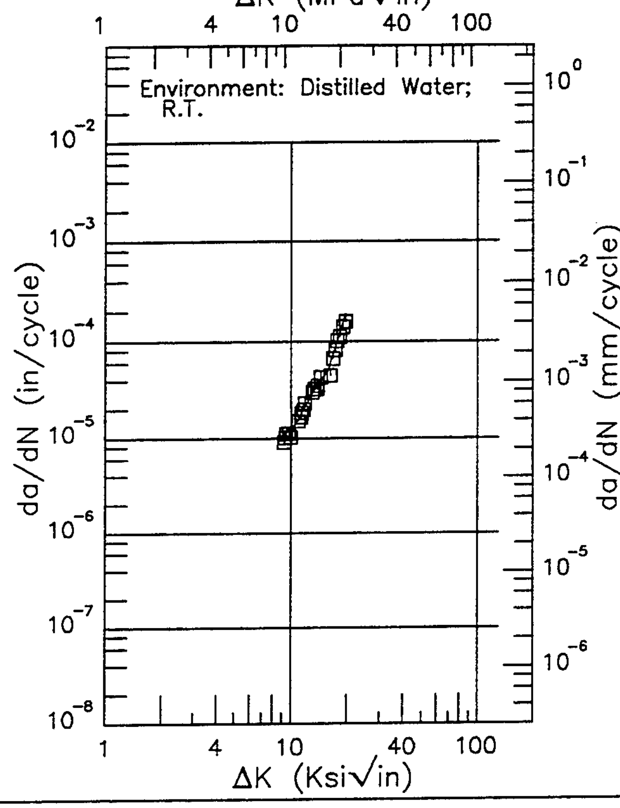
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
8.99 (min)	6.38
9.	6.44
10.	11.3
13.	24.1
16.	46.7
20.	156.
20.08 (max)	161.

RMS % Error 9.43

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 4)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
9.16 (min)	9.22
10.	11.4
13.	29.1
16.	52.8
19.65 (max)	195.

RMS % Error 9.26

Life Prediction Ratio Summary

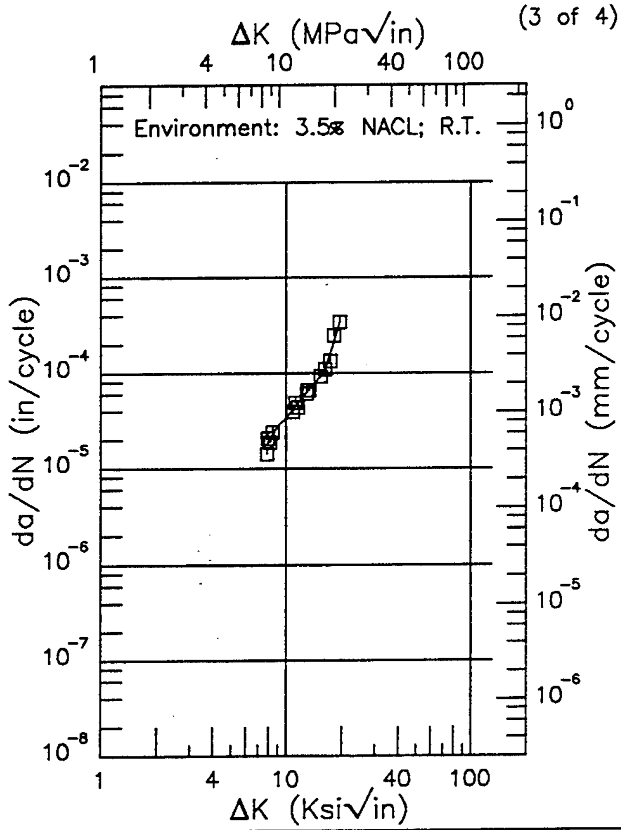
0. .5 .8 1.25 2.

Figure 8.9.3.1.34

Condition/Ht: T651
Form: 0.63 in. Plate
Specimen Type: DCB
Orientation: T–L
Stress Ratio: 0.1
Frequency: 0.1 Hz

Yield Strength:
Ult. Strength:
Specimen Thk:
Specimen Width:
Ref: 88140

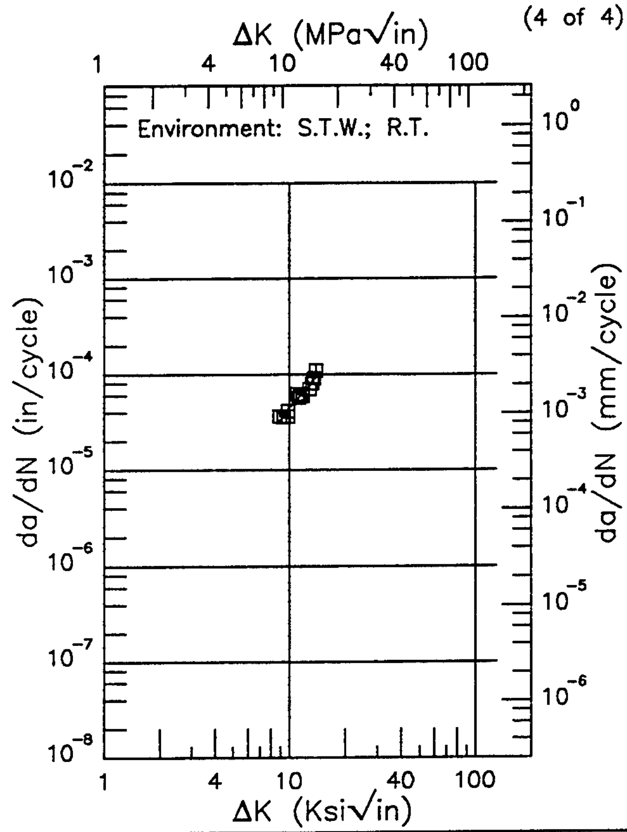
(3 of 4)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
7.86 (min)	17.8
8.	19.3
9.	28.0
10.	33.6
13.	62.8
16.	102.
19.42 (max)	347.

RMS % Error	Life Prediction Ratio Summary
9.72	0. .5 .8 1.25 2.

(4 of 4)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
8.86 (min)	31.9
9.	33.5
10.	44.1
13.	78.1
13.91 (max)	94.4

RMS % Error	Life Prediction Ratio Summary
8.60	0. .5 .8 1.25 2.

Figure 8.9.3.1.34 (Concluded)

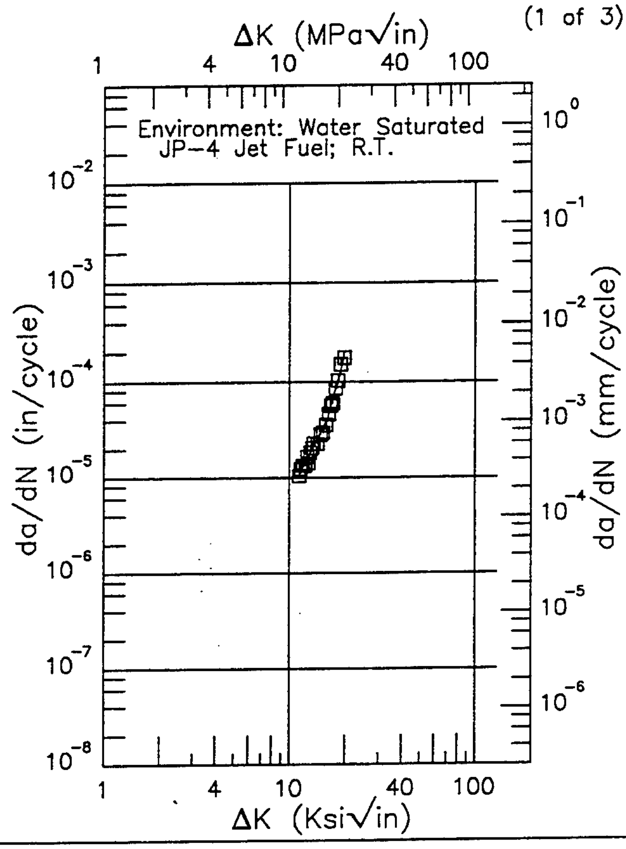
7075

E

Condition/Ht: T651
Form: 0.63 in. Plate
Specimen Type: DCB
Orientation: T–L
Stress Ratio: 0.1
Frequency: 1 Hz

Yield Strength:
Ult. Strength:
Specimen Thk:
Specimen Width:
Ref: 88140

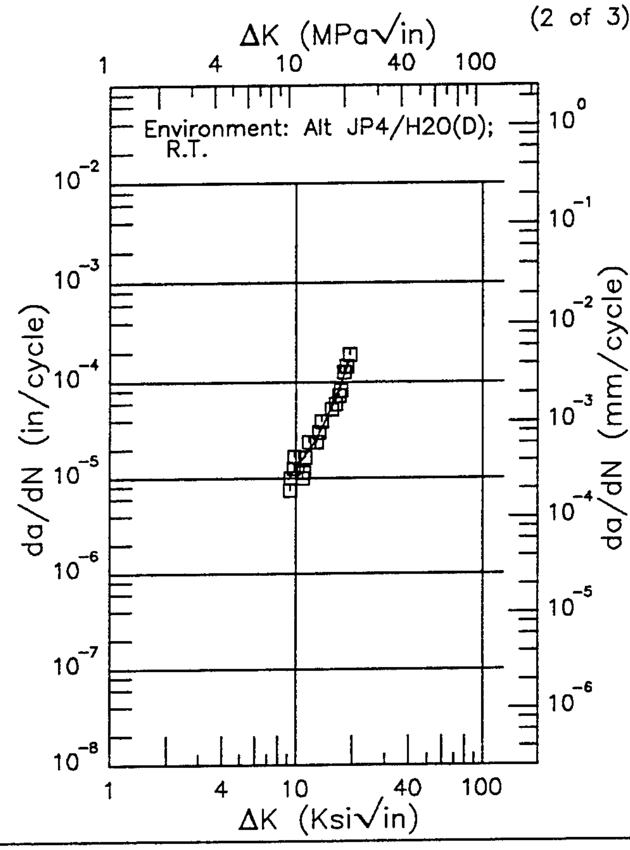
(1 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
11.25 (min)	10.9
13.	18.4
16.	41.5
19.59 (max)	179.

RMS % Error	Life Prediction Ratio Summary
7.46	0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
9.25 (min)	10.6
10.	12.5
13.	26.1
16.	60.5
19.37 (max)	167.

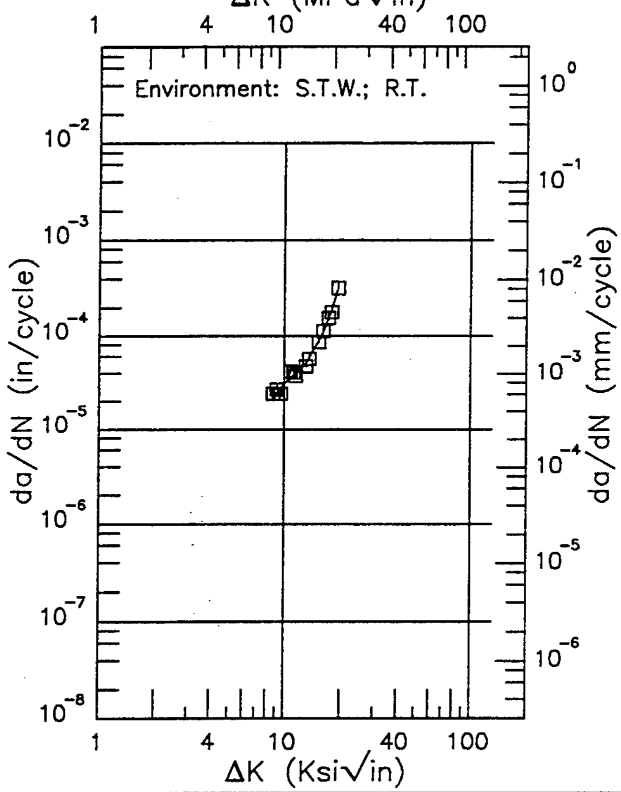
RMS % Error	Life Prediction Ratio Summary
19.14	0. .5 .8 1.25 2.

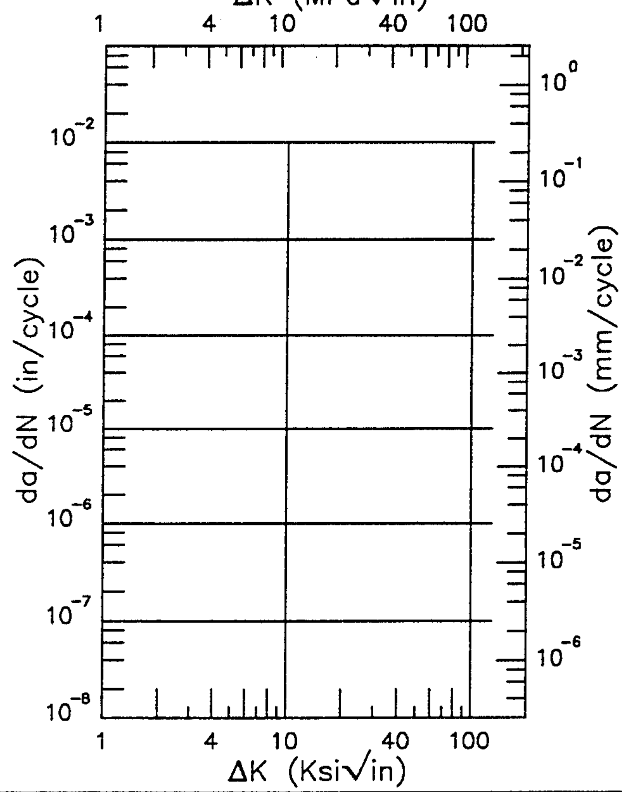
Figure 8.9.3.1.35

Condition/Ht: T651
Form: 0.63 in. Plate
Specimen Type: DCB
Orientation: T–L
Stress Ratio: 0.1
Frequency: 1 Hz

Yield Strength:
Ult. Strength:
Specimen Thk:
Specimen Width:
Ref: 88140

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
8.71 (min)	21.4
9.	23.8
10.	30.9
13.	50.3
16.	107.
19.15 (max)	309.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
8.25	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.9.3.1.35 (Concluded)

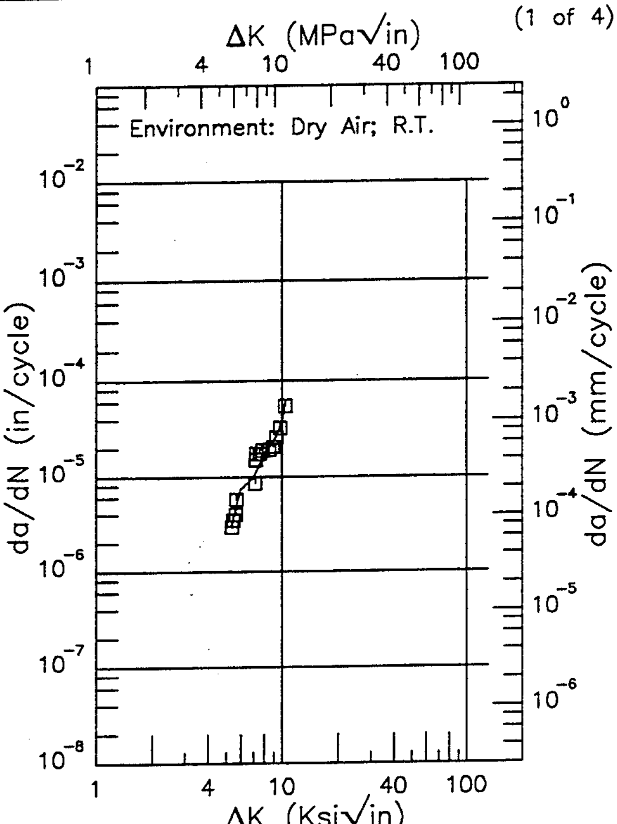
E

7075

Condition/Ht: T651
Form: 0.63 in. Plate
Specimen Type: DCB
Orientation: T-L
Stress Ratio: 0.5
Frequency: 0.1 Hz

Yield Strength:
Ult. Strength:
Specimen Thk:
Specimen Width:
Ref: 88140

(1 of 4)



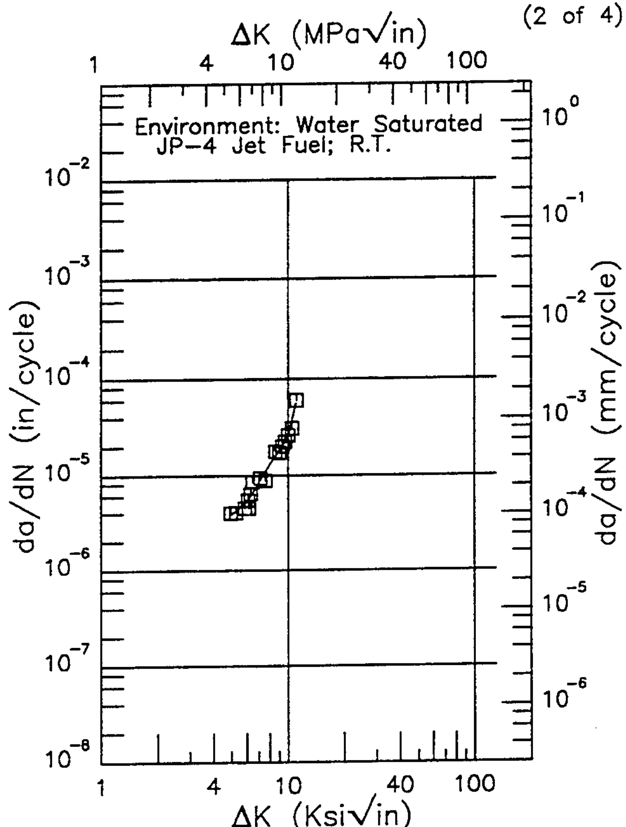
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.35 (min)	3.00
6.	7.50
7.	9.82
8.	17.5
9.	24.0
10.	37.7
10.31 (max)	57.4

RMS % Error 20.64

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 4)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.90 (min)	3.85
5.	3.88
6.	5.30
7.	8.56
8.	13.2
9.	18.3
10.	25.4
11.02 (max)	56.5

RMS % Error 12.46

Life Prediction Ratio Summary

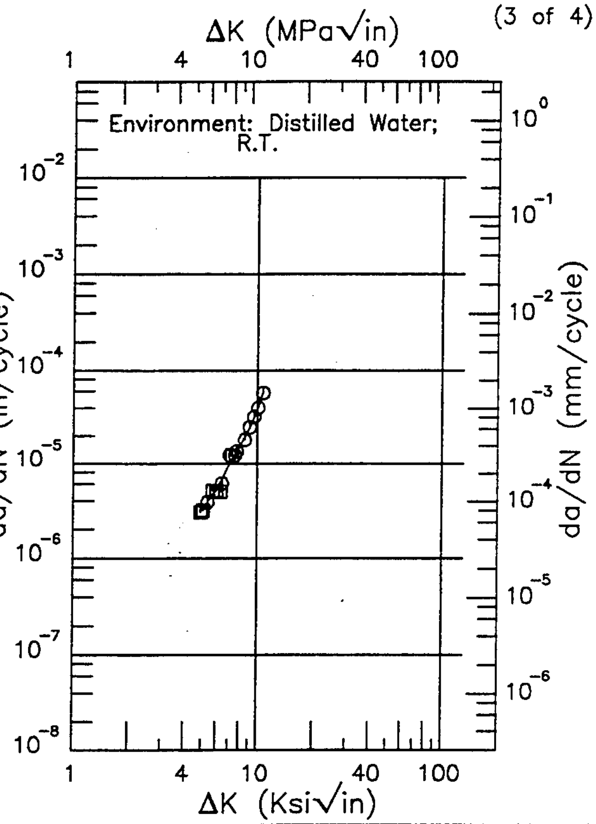
0. .5 .8 1.25 2.

Figure 8.9.3.1.36

Condition/Ht: T651
Form: 0.63 in. Plate
Specimen Type: DCB
Orientation: T-L
Stress Ratio: 0.5
Frequency: 0.1 Hz

Yield Strength:
Ult. Strength:
Specimen Thk:
Specimen Width:
Ref: 88140

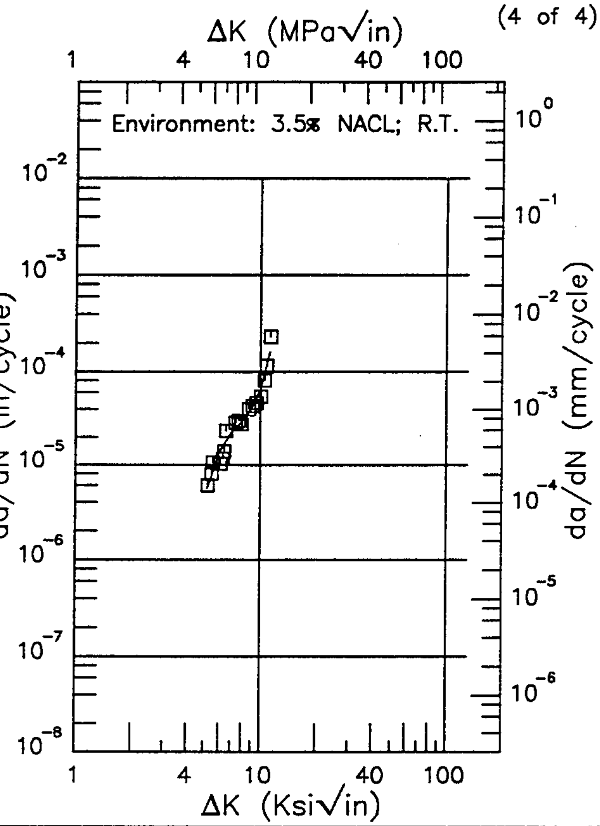
(3 of 4)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.90 (min)	3.16
5.	3.21
6.	5.35
7.	9.89
8.	15.5
9.	23.7
10.	38.9
10.66 (max)	57.0

RMS % Error	Life Prediction Ratio Summary
9.38	0. .5 .8 1.25 2.

(4 of 4)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.19 (min)	5.56
6.	13.8
7.	22.4
8.	29.4
9.	40.4
10.	65.1
11.28 (max)	162.

RMS % Error	Life Prediction Ratio Summary
19.69	0. .5 .8 1.25 2.

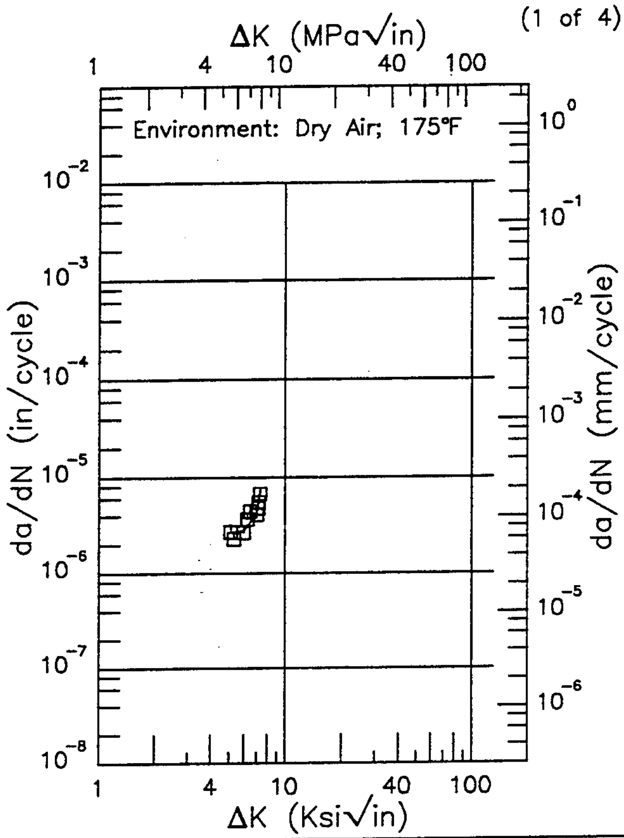
Figure 8.9.3.1.36 (Concluded)

7075

E

Condition/Ht: T651	Yield Strength:
Form: 0.63 in. Plate	Ult. Strength:
Specimen Type: DCB	Specimen Thk:
Orientation: T–L	Specimen Width:
Stress Ratio: 0.5	Ref: 88140
Frequency: 1 Hz	

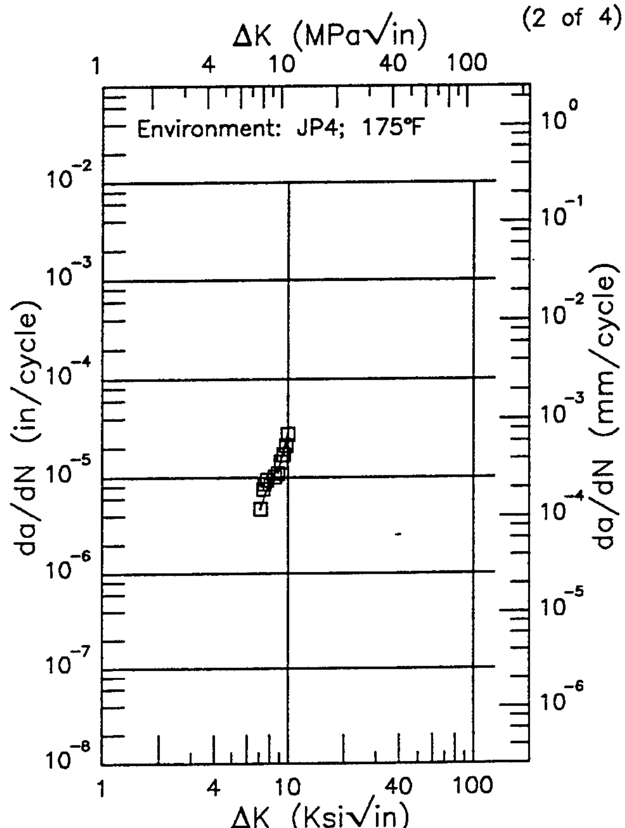
(1 of 4)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.11 (min)	2.67
6.	2.80
7.	4.13
7.31 (max)	7.06

RMS % Error	Life Prediction Ratio Summary
13.68	0. .5 .8 1.25 2.

(2 of 4)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
7.10 (min)	4.69
8.	9.44
9.	12.7
9.99 (max)	27.2

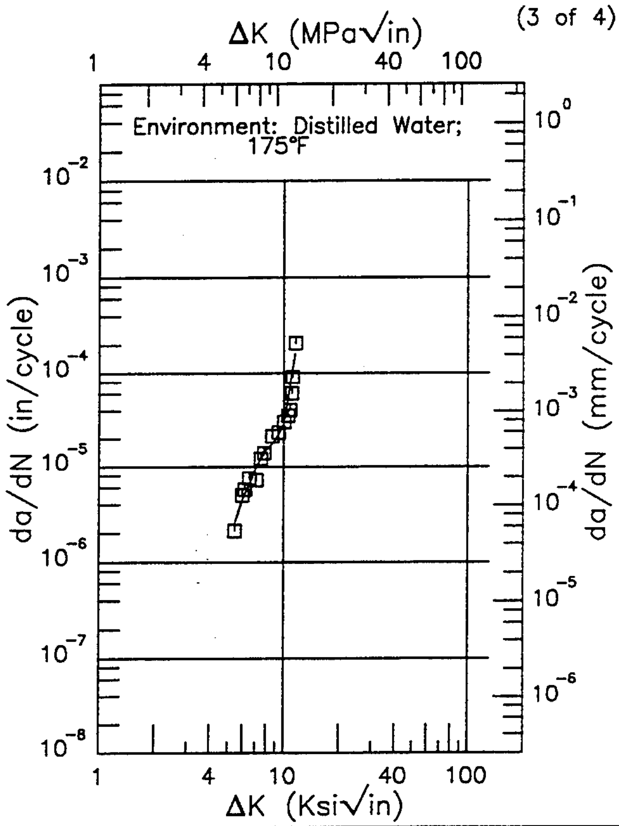
RMS % Error	Life Prediction Ratio Summary
18.28	0. .5 .8 1.25 2.

Figure 8.9.3.1.37

Condition/Ht: T651
Form: 0.63 in. Plate
Specimen Type: DCB
Orientation: T–L
Stress Ratio: 0.5
Frequency: 1 Hz

Yield Strength:
Ult. Strength:
Specimen Thk:
Specimen Width:
Ref: 88140

(3 of 4)

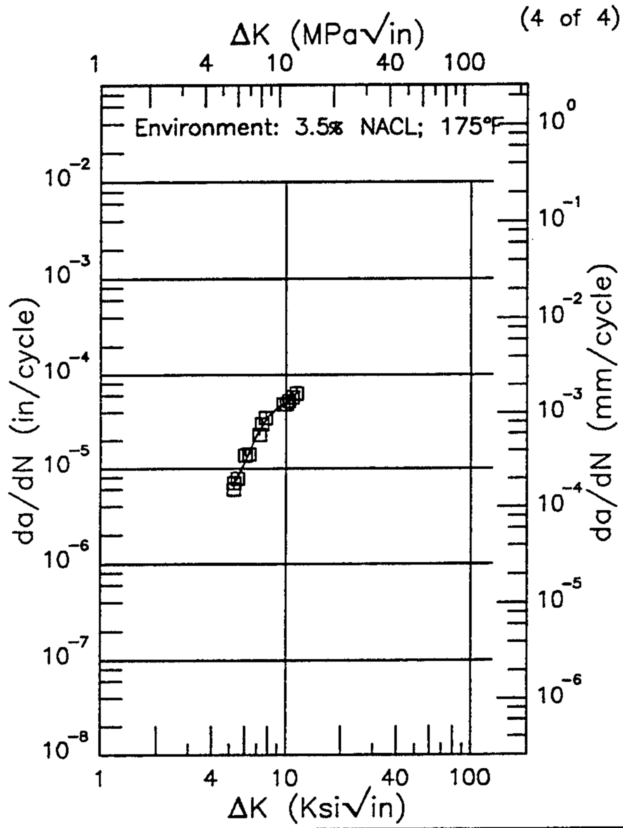


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.41 (min)	2.42
6.	4.47
7.	9.53
8.	15.2
9.	19.4
10.	28.7
11.51 (max)	160.

RMS % Error 21.67

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

(4 of 4)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.23 (min)	6.59
6.	11.7
7.	22.9
8.	36.1
9.	44.5
10.	49.6
11.40 (max)	63.3

RMS % Error 5.84

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

Figure 8.9.3.1.37 (Concluded)

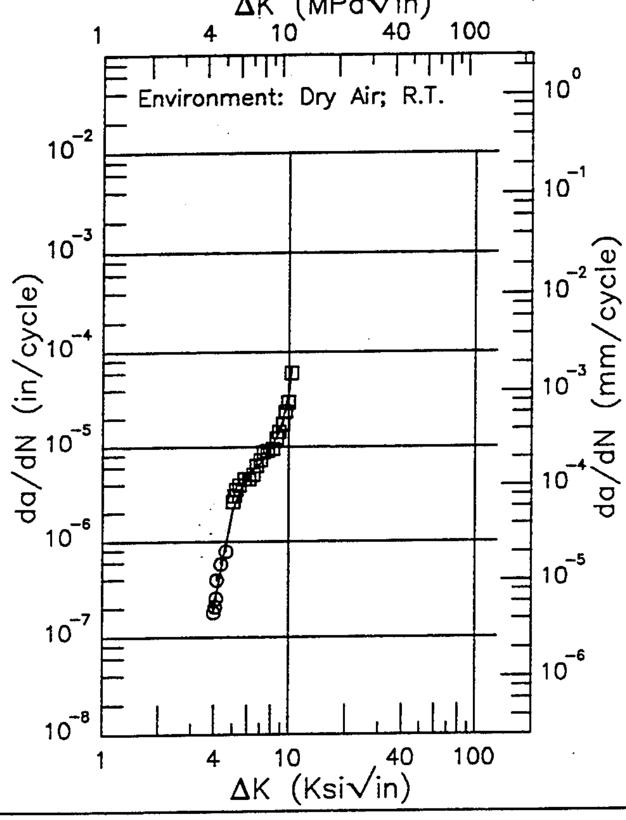
7075

E

Condition/Ht: T651
Form: 0.63 in. Plate
Specimen Type: DCB
Orientation: T–L
Stress Ratio: 0.5
Frequency: 1 Hz

Yield Strength:
Ult. Strength:
Specimen Thk:
Specimen Width:
Ref: 88140

(1 of 6)

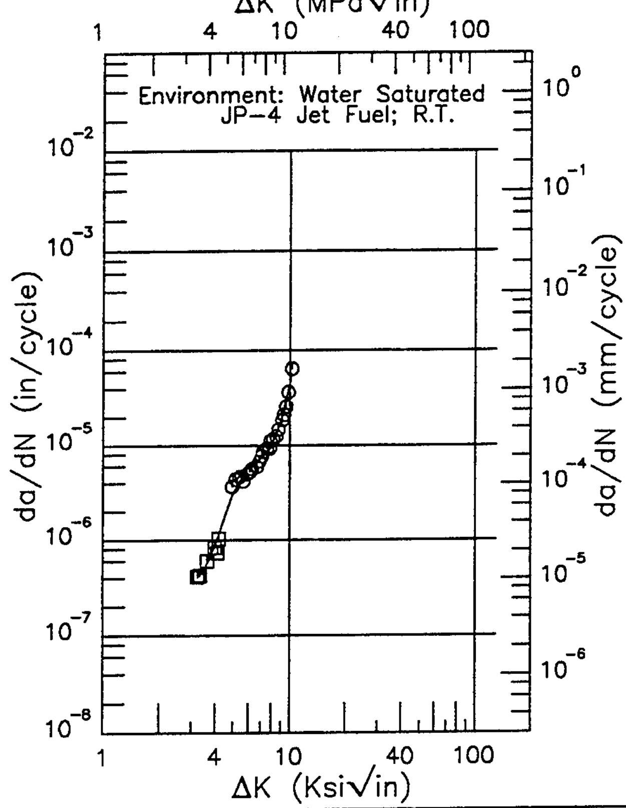


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.96 (min)	0.198
4.	0.221
5.	2.10
6.	5.18
7.	6.56
8.	9.86
9.	15.3
10.	37.7
10.25 (max)	58.5

RMS % Error: 15.65

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

(2 of 6)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.23 (min)	0.402
3.5	0.481
4.	0.879
5.	3.13
6.	5.91
7.	7.23
8.	9.85
9.	18.2
10.	45.0
10.23 (max)	57.4

RMS % Error: 13.08

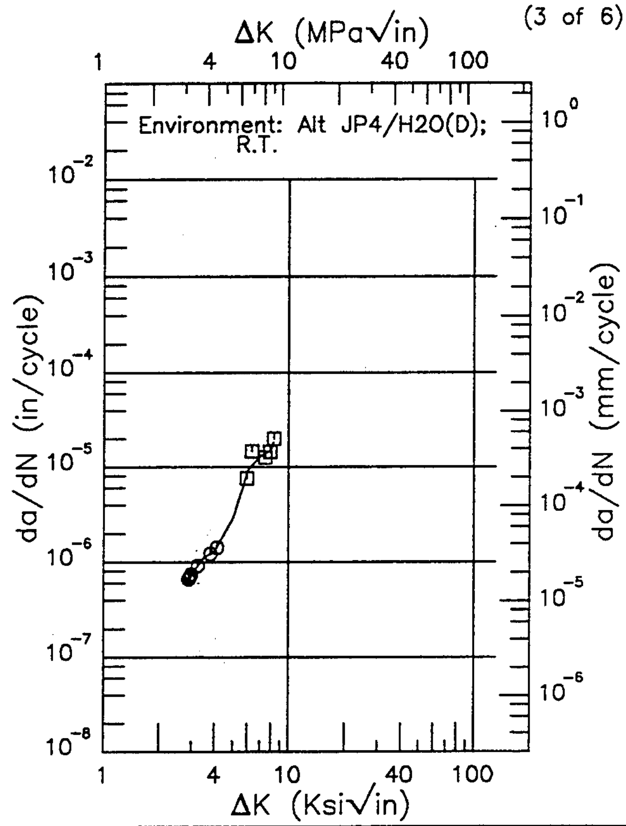
Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

Figure 8.9.3.1.38

Condition/Ht: T651
Form: 0.63 in. Plate
Specimen Type: DCB
Orientation: T-L
Stress Ratio: 0.5
Frequency: 1 Hz

Yield Strength:
Ult. Strength:
Specimen Thk:
Specimen Width:
Ref: 88140

(3 of 6)

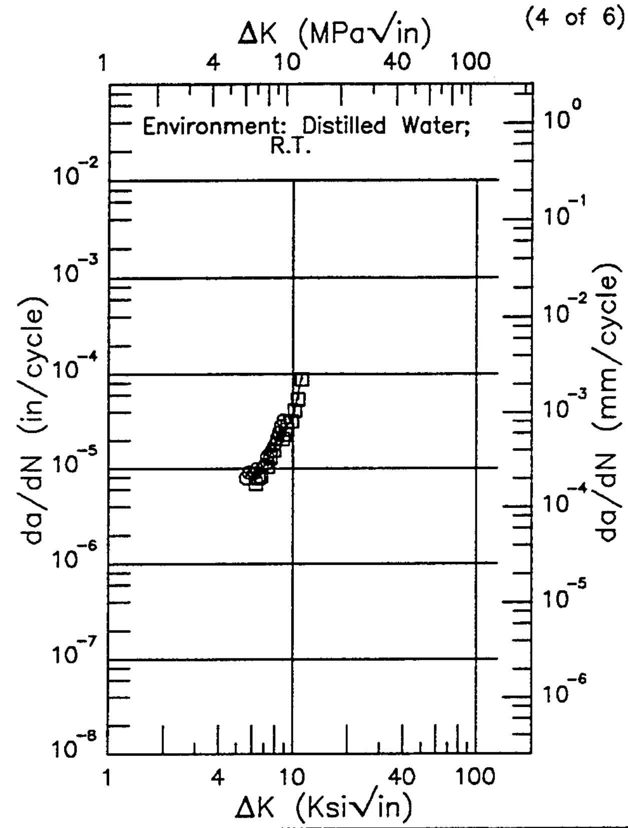


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.88 (min)	0.605
3.	0.745
3.5	1.12
4.	1.31
5.	2.89
6.	9.16
7.	13.0
8.	15.2
8.30 (max)	18.5

RMS % Error 14.03

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

(4 of 6)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.58 (min)	9.16
6.	8.02
7.	10.5
8.	17.5
9.	26.4
10.	34.8
11.15 (max)	92.6

RMS % Error 13.28

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

Figure 8.9.3.1.38 (Continued)

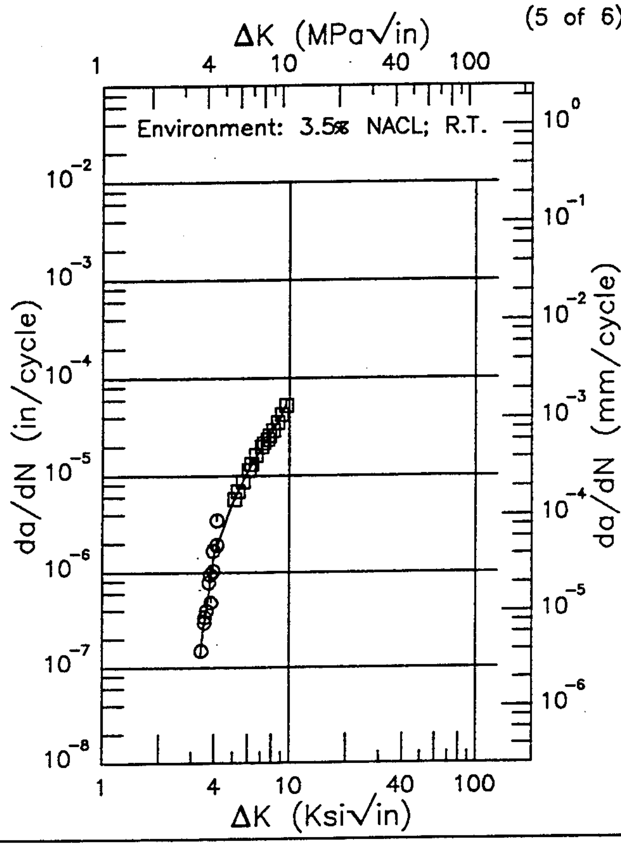
E

7075

Condition/Ht: T651
Form: 0.63 in. Plate
Specimen Type: DCB
Orientation: T–L
Stress Ratio: 0.5
Frequency: 1 Hz

Yield Strength:
Ult. Strength:
Specimen Thk:
Specimen Width:
Ref: 88140

(5 of 6)

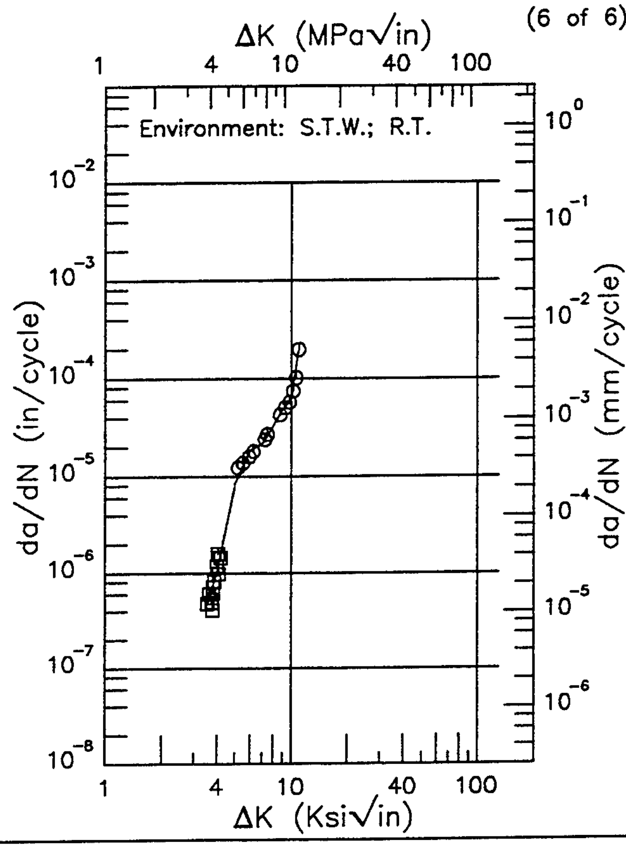


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.38 (min)	0.133
3.5	0.264
4.	1.55
5.	5.40
6.	11.1
7.	18.8
8.	27.8
9.	40.6
9.54 (max)	52.9

RMS % Error
23.74

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

(6 of 6)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.53 (min)	0.463
4.	1.02
5.	8.27
6.	18.7
7.	21.5
8.	32.7
9.	49.0
10.	62.3
10.94 (max)	193.

RMS % Error
17.16

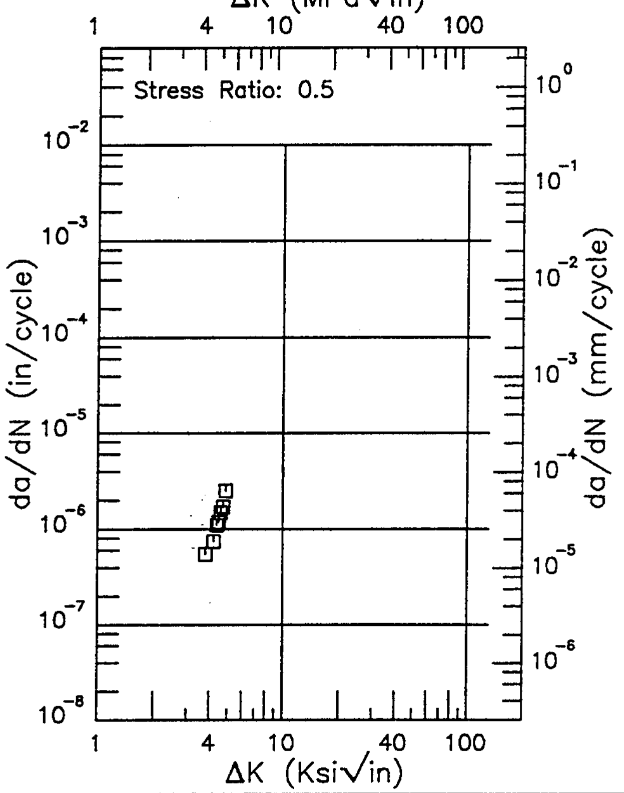
Life Prediction Ratio Summary
0. .5 .8 1.25 2.

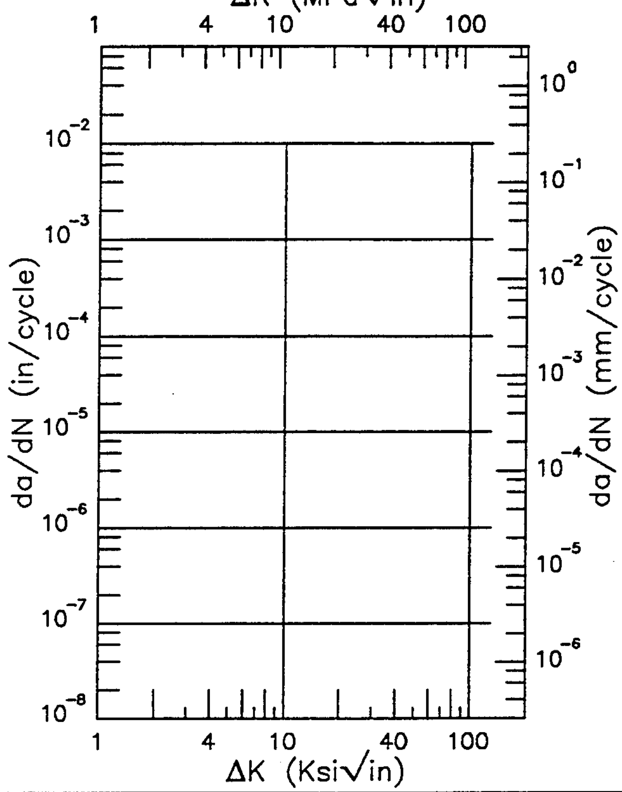
Figure 8.9.3.1.38 (Concluded)

Condition/Ht: T651
Form: 0.63 in. Plate
Specimen Type: DCB
Orientation: T-L
Frequency: 15 Hz
Environment: 3.5% NACL; RT

Yield Strength:
Ult. Strength:
Specimen Thk:
Specimen Width:
Ref: 88140

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)	ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary	RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.		0. .5 .8 1.25 2.

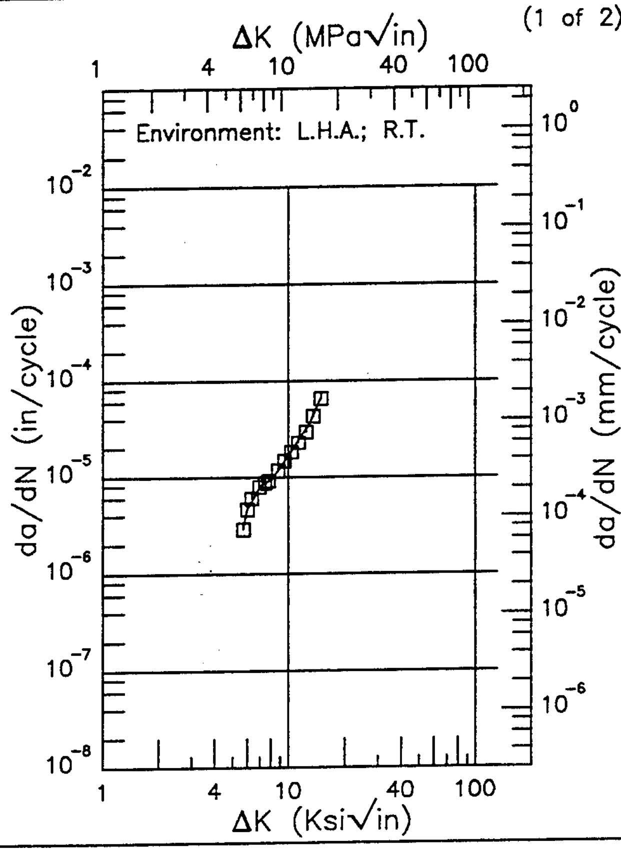
Figure 8.9.3.1.39

E 7075

Condition/Ht: T6510
Form: 0.68 in. Extrusion
Specimen Type: CCP (max load specified)
Orientation: L–T
Stress Ratio: 0.33
Frequency: 5.2 Hz

Yield Strength: 82.4 ksi
Ult. Strength: 90.4 ksi
Specimen Thk: 0.663 – 0.666 in.
Specimen Width: 3.004 – 3.006 in.
Ref: AL005;AL002

(1 of 2)



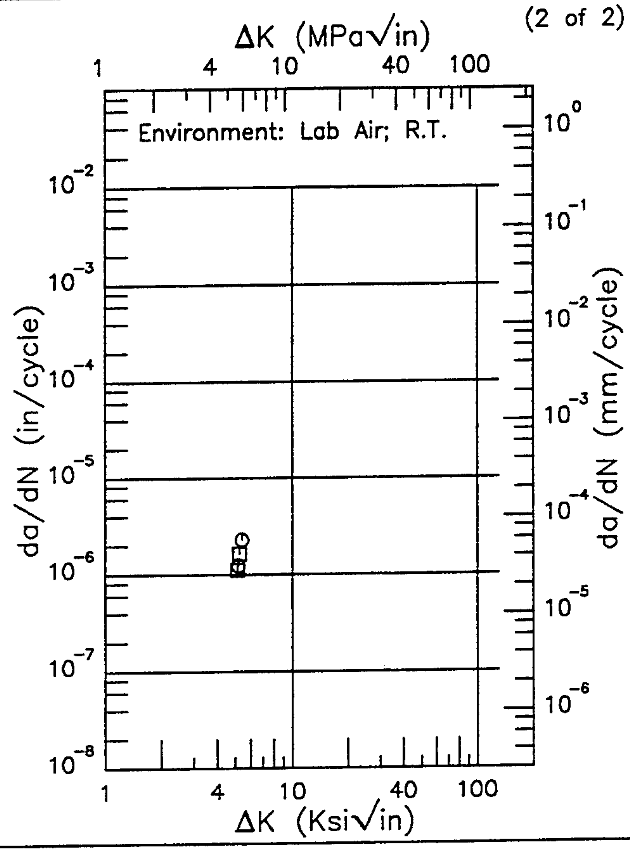
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.67 (min)	2.95
6.	4.67
7.	8.03
8.	9.45
9.	12.5
10.	16.8
13.	35.6
14.80 (max)	64.8

RMS % Error 3.84

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error

Life Prediction Ratio Summary

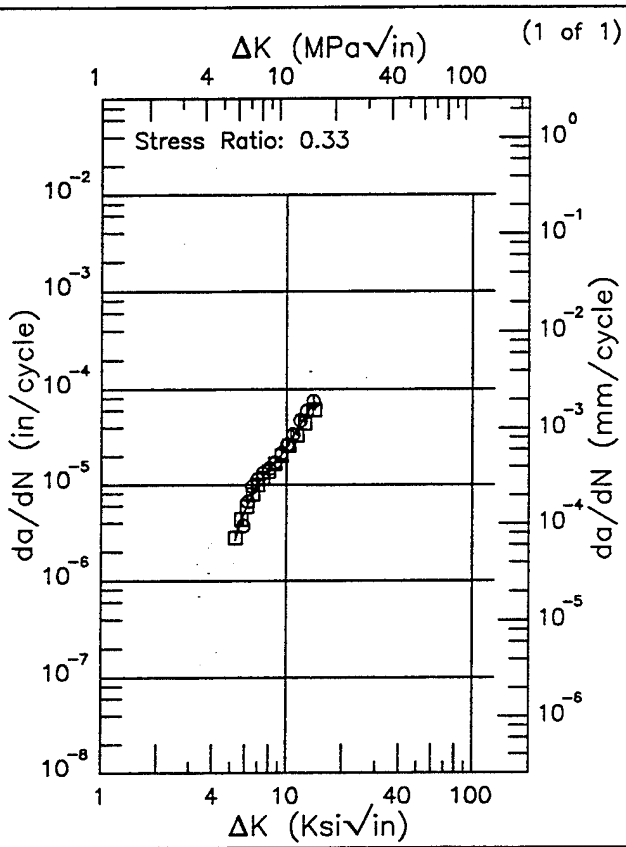
0. .5 .8 1.25 2.

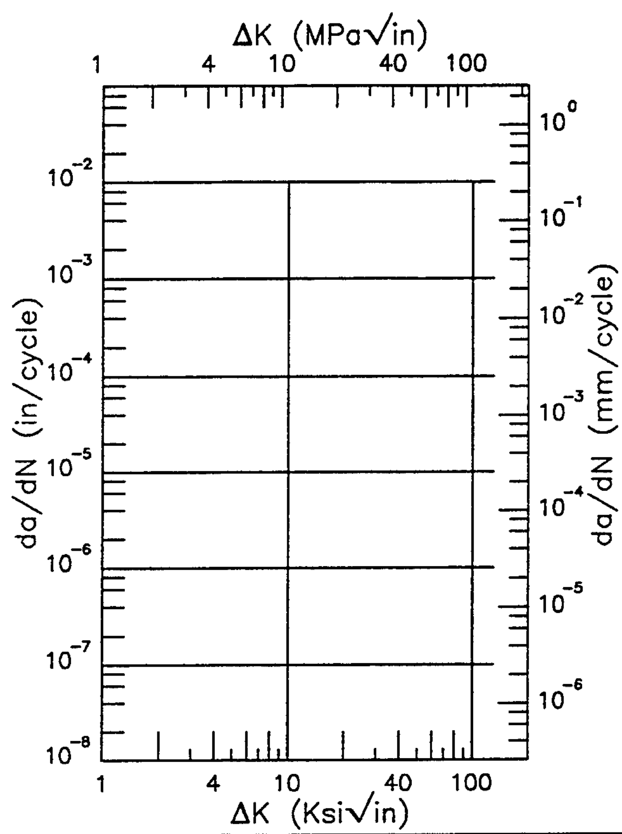
Figure 8.9.3.1.40

Condition/Ht: T6510
Form: 0.68 in. Extrusion
Specimen Type: CCP (max load specified)
Orientation: L–T
Frequency: 5.2 Hz
Environment: LAB AIR; RT

Yield Strength: 82.4 ksi
Ult. Strength: 90.4 ksi
Specimen Thk: 0.626 – 0.627 in.
Specimen Width: 3.004 – 3.005 in.
Ref: AL005

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.28 (min)	2.63
6.	5.48
7.	10.3
8.	14.7
9.	18.7
10.	24.3
13.	57.9
14.19 (max)	73.9

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
9.43	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

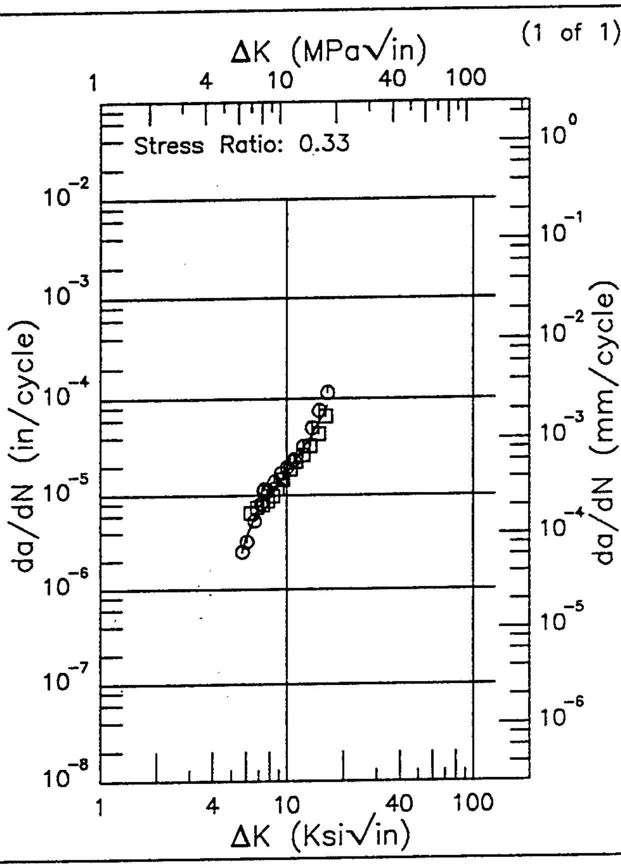
Figure 8.9.3.1.41

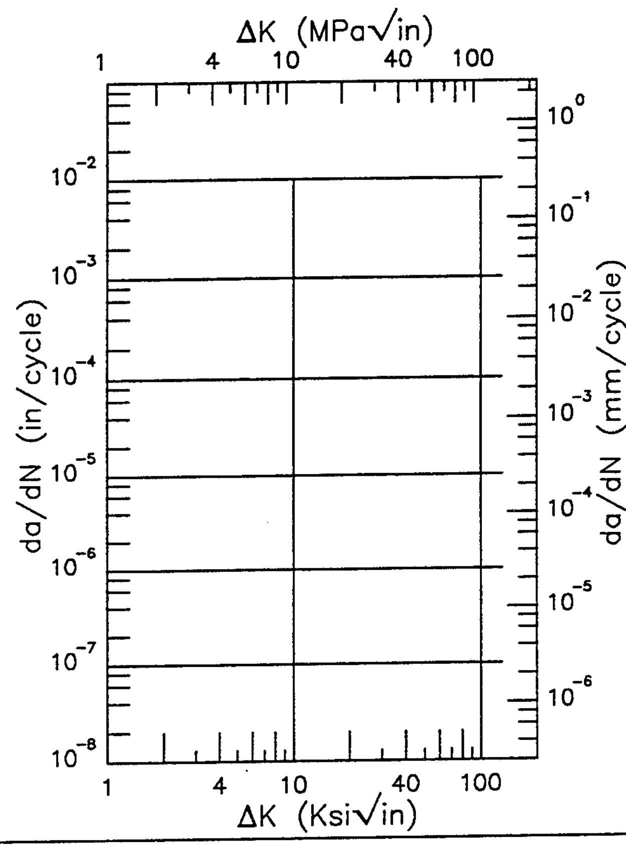
R 7075

Condition/Ht: T6510
Form: 3.5 in. Extruded Bar
Specimen Type: CCP (max load specified)
Orientation: L-T
Frequency: 5.2 Hz
Environment: LAB AIR; RT

Yield Strength: 75.7 ksi
Ult. Strength: 85.4 ksi
Specimen Thk: 0.751 in.
Specimen Width: 3.003 – 3.005 in.
Ref: AL005

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.73 (min)	2.47
6.	3.49
7.	7.55
8.	10.8
9.	13.6
10.	17.1
13.	36.1
16.	74.7
16.44 (max)	83.9

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
17.02

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.9.3.1.42

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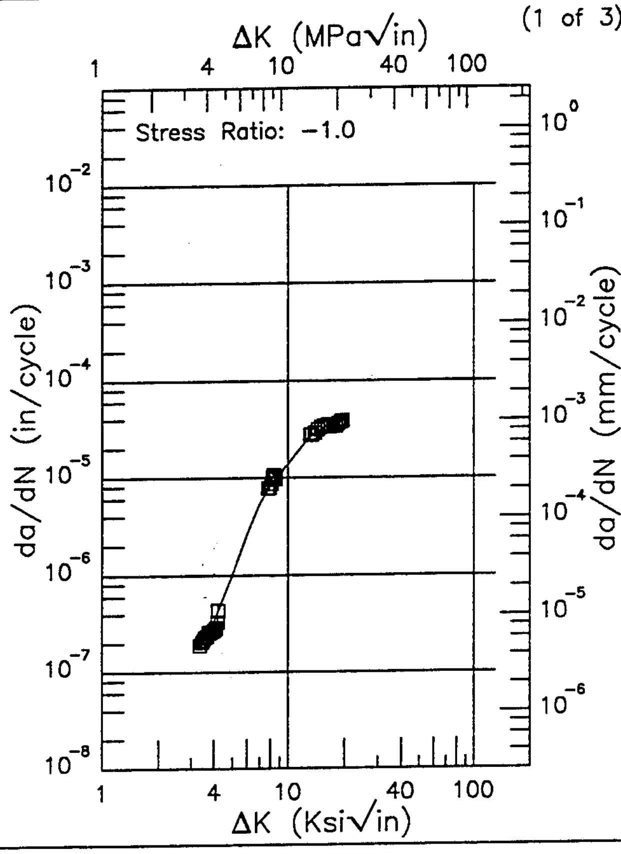
R 7075

Condition/Ht: T6511
Form: Extrusion
Specimen Type: CCP (max stress specified)
Orientation: L–T
Frequency:
Environment: LAB AIR; RT

Yield Strength: 79.5 ksi
Ult. Strength:
Specimen Thk: 0.244 – 0.252 in.
Specimen Width: 8.997 – 9 in.
Ref: DA001

(1 of 3)



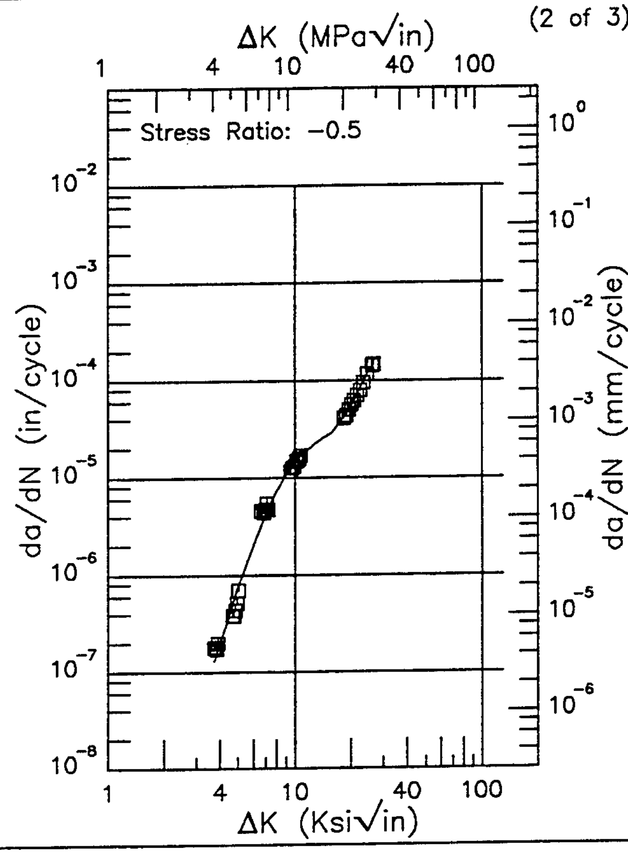
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.32 (min)	0.184
3.5	0.209
4.	0.336
5.	1.01
6.	2.64
7.	5.37
8.	8.39
9.	11.1
10.	13.8
13.	26.1
16.	34.3
19.42 (max)	40.0

RMS % Error 8.30

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.72 (min)	0.131
4.	0.203
5.	0.759
6.	2.02
7.	4.22
8.	7.33
9.	11.0
10.	14.8
13.	23.0
16.	29.5
20.	53.9
25.	125.
26.40 (max)	142.

RMS % Error 16.68

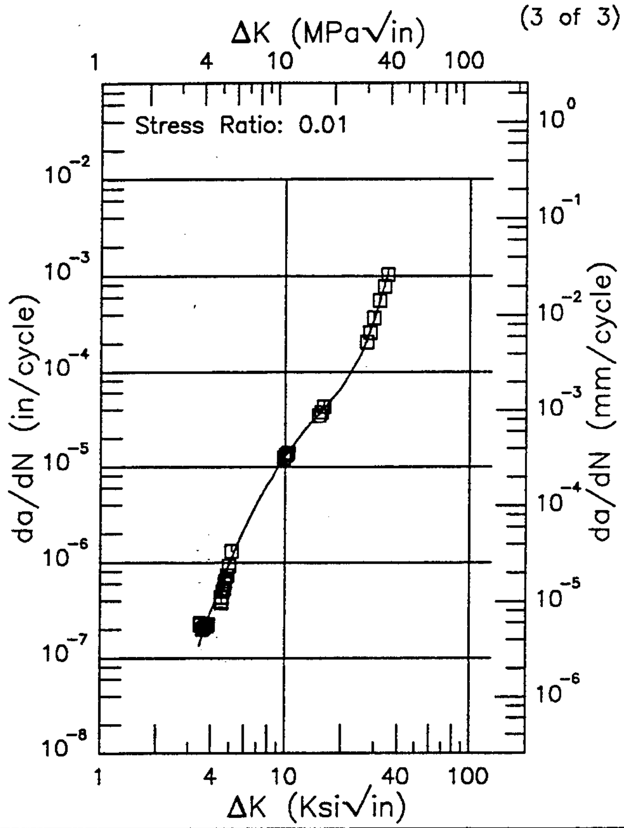
Life Prediction Ratio Summary

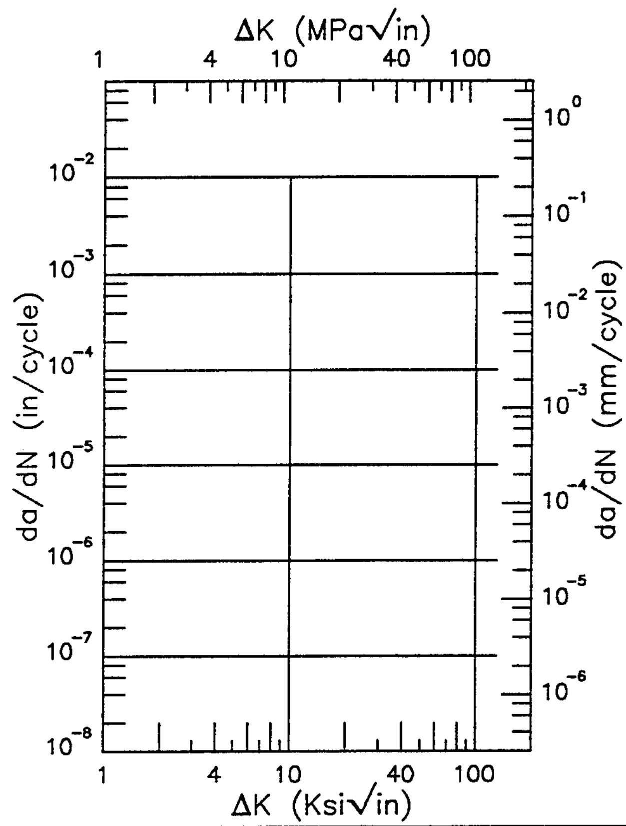
0. .5 .8 1.25 2.

Figure 8.9.3.1.43

Condition/Ht: T6511
Form: Extrusion
Specimen Type: CCP (max stress specified)
Orientation: L-T
Frequency:
Environment: LAB AIR; RT

Yield Strength: 79.5 ksi
Ult. Strength:
Specimen Thk: 0.244 - 0.252 in.
Specimen Width: 8.997 - 9 in.
Ref: DA001





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.46 (min)	0.134
3.5	0.144
4.	0.313
5.	0.985
6.	2.22
7.	4.08
8.	6.54
9.	9.55
10.	13.0
13.	25.6
16.	40.3
20.	68.2
25.	145.
30.	361.
35.	1007.
35.27 (max)	1068.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
22.09

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

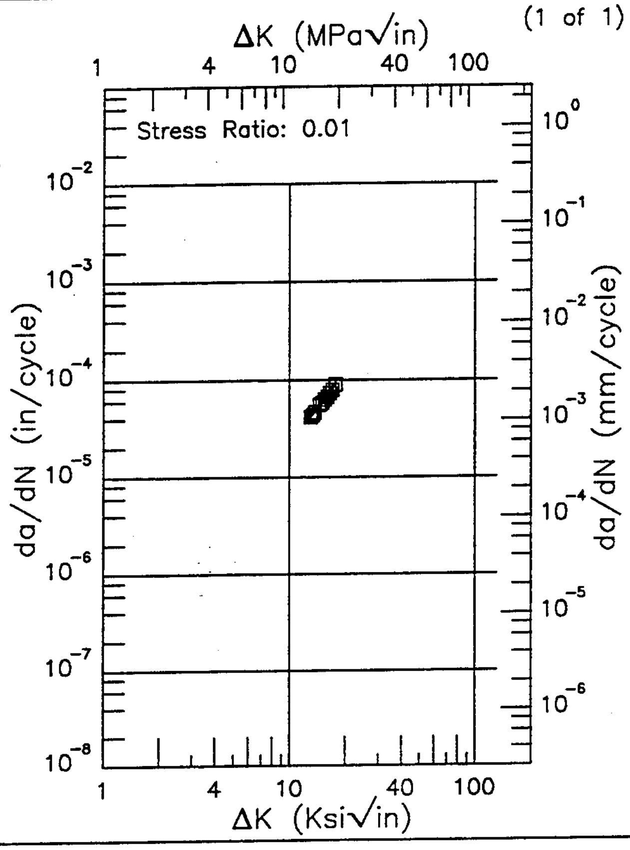
Figure 8.9.3.1.43 (Concluded)

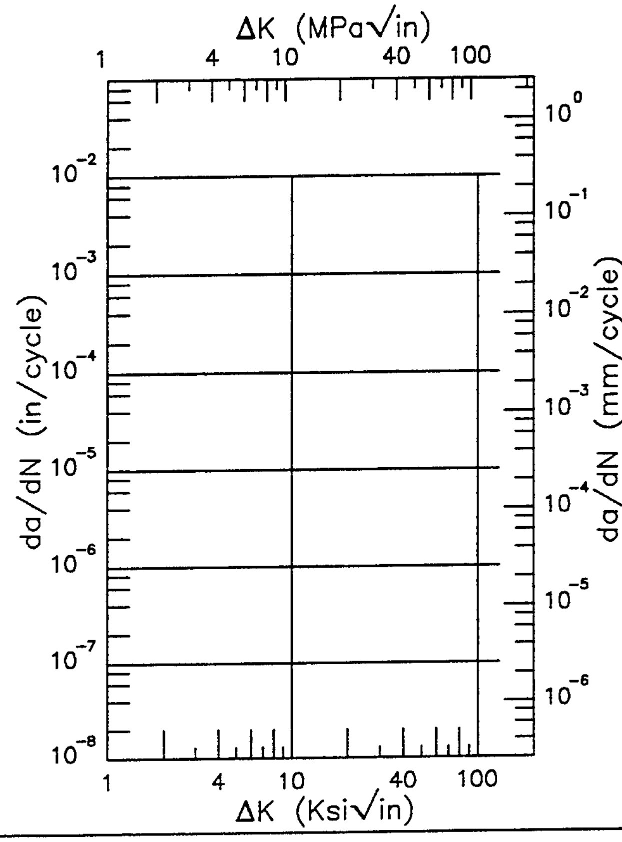
R — 7075

Condition/Ht: T6511
Form: Extrusion
Specimen Type: CCP (max load specified)
Orientation: L—T
Frequency: 0.5 Hz
Environment: S.T.W.; RT

Yield Strength: 79.5 ksi
Ult. Strength:
Specimen Thk: 0.247 in.
Specimen Width: 9 in.
Ref: DA001

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
12.98 (min)	41.6
13.	41.6
16.	67.6
17.63 (max)	89.4

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error	Life Prediction Ratio Summary
1.72	0. .5 .8 1.25 2.

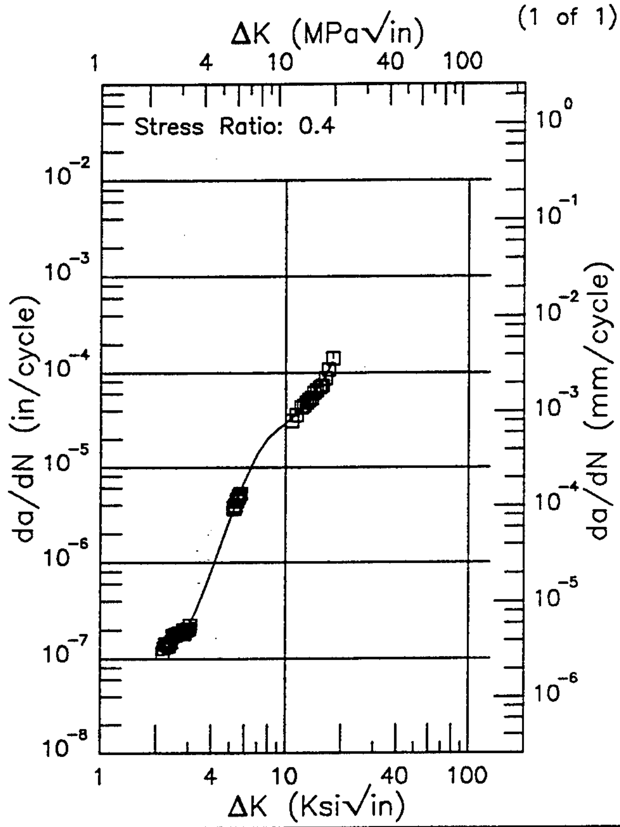
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

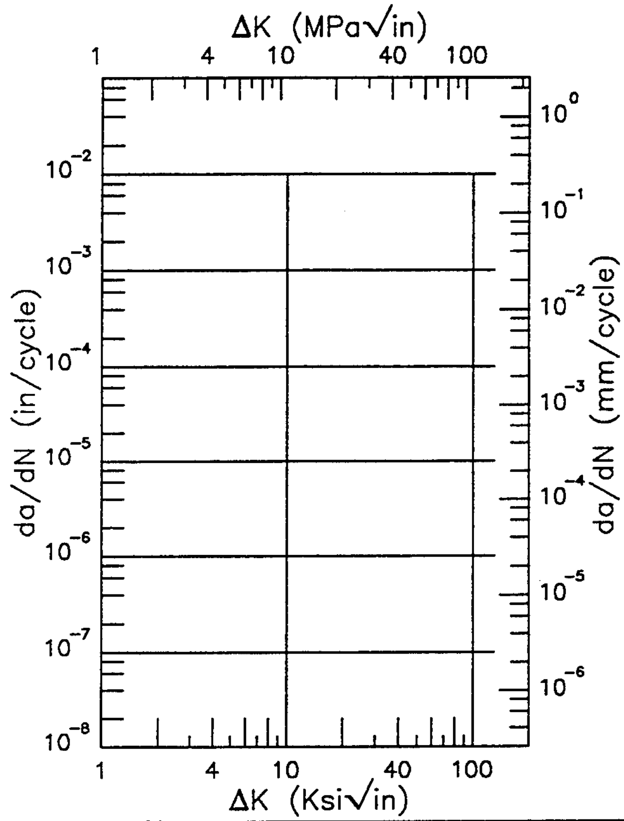
Figure 8.9.3.1.44

Condition/Ht: T6511
Form: Extrusion
Specimen Type: CCP (max stress specified)
Orientation: L–T
Frequency: 5 Hz
Environment: LAB AIR; RT

Yield Strength: 79.5 ksi
Ult. Strength:
Specimen Thk: 0.251 in.
Specimen Width: 8.998 in.
Ref: DA001

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.16 (min)	0.149
2.5	0.146
3.	0.221
3.5	0.411
4.	0.803
5.	2.76
6.	7.17
7.	13.8
8.	20.3
9.	25.2
10.	29.1
13.	45.4
16.	86.9
17.91 (max)	131.

ΔK (Ksi√in) da/dN (10^{-6}in/cycle)

RMS % Error
7.93

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

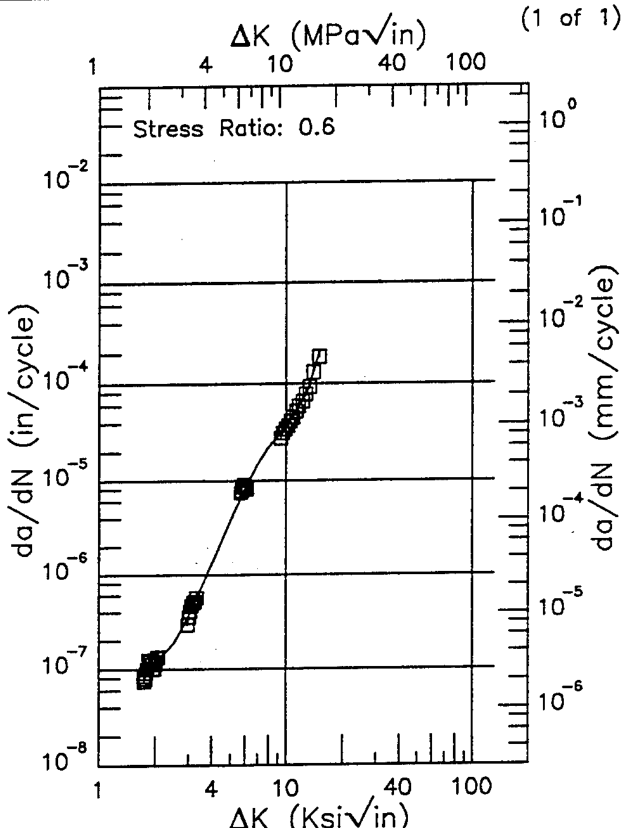
Figure 8.9.3.1.45

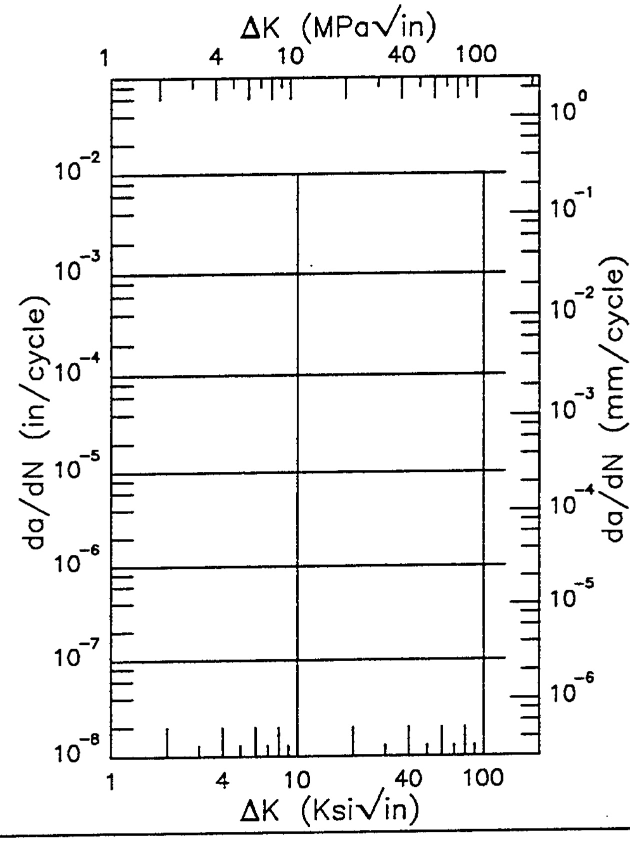
R 7075

Condition/Ht: T6511
Form: Extrusion
Specimen Type: CCP (max stress specified)
Orientation: L–T
Frequency:
Environment: LAB AIR; RT

Yield Strength: 79.5 ksi
Ult. Strength:
Specimen Thk: 0.25 in.
Specimen Width: 9 in.
Ref: DA001

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.72 (min)	0.103
2.	0.114
2.5	0.189
3.	0.362
3.5	0.699
4.	1.30
5.	3.72
6.	8.32
7.	15.0
8.	22.5
9.	29.2
10.	35.6
13.	81.8
14.99 (max)	213.

ΔK (Ksi√in) da/dN (10^{-6}in/cycle)

RMS % Error
10.59

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

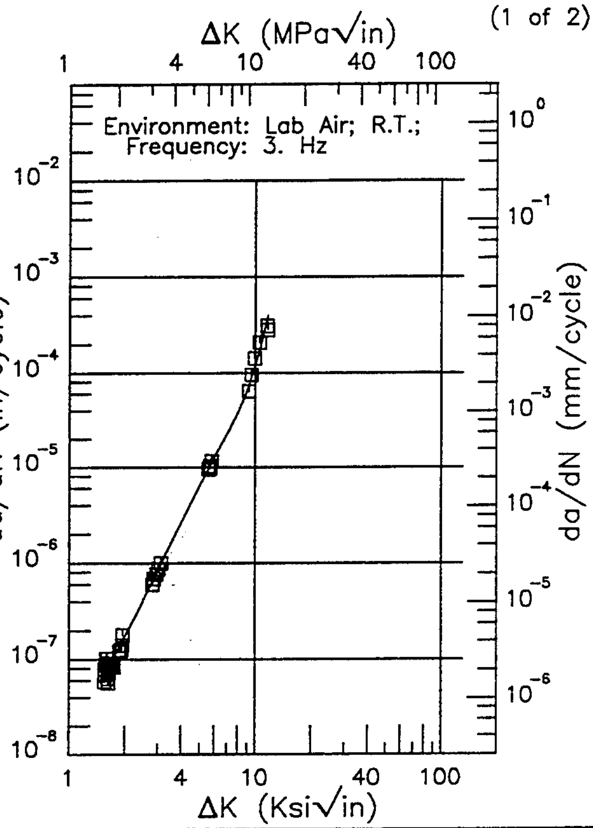
0. .5 .8 1.25 2.

Figure 8.9.3.1.46

Condition/Ht: T6511
Form: Extrusion
Specimen Type: CCP (max stress specified)
Orientation: L-T
Stress Ratio: 0.8

Yield Strength: 79.5 ksi
Ult. Strength:
Specimen Thk: 0.246 – 0.25 in.
Specimen Width: 9 in.
Ref: DA001

(1 of 2)

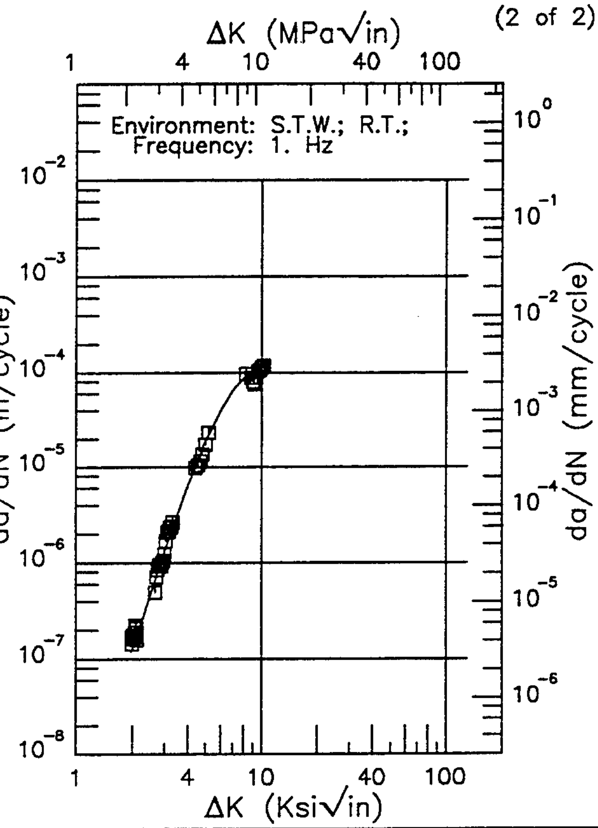


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.55 (min)	0.0688
1.6	0.0772
2.	0.174
2.5	0.408
3.	0.838
3.5	1.55
4.	2.64
5.	6.36
6.	12.8
7.	22.5
8.	37.6
9.	64.8
10.	120.
11.65 (max)	398.

RMS % Error
15.21

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.97 (min)	0.119
2.	0.128
2.5	0.456
3.	1.31
3.5	3.13
4.	6.43
5.	19.1
6.	40.0
7.	65.2
8.	87.5
9.	100.
10.	102.
10.23 (max)	100.

RMS % Error
18.87

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

Figure 8.9.3.1.47

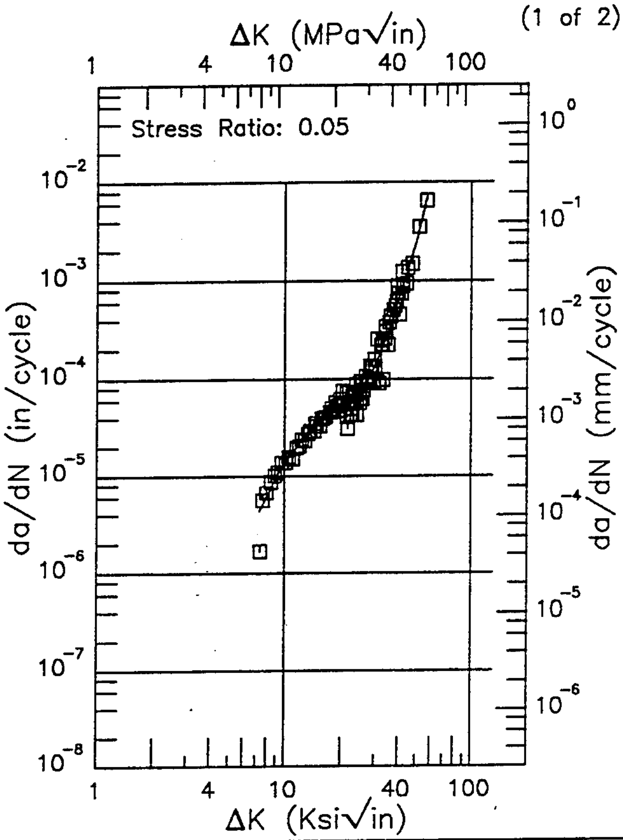
7075

R

Condition/Ht: T6511
Form: Extrusion
Specimen Type: CCP (max stress specified)
Orientation: L—T
Frequency: 9 Hz
Environment: H.H.A.; RT

Yield Strength: 81.5 ksi
Ult. Strength: 88.6 ksi
Specimen Thk: 0.15 in.
Specimen Width: 5.95 in.
Ref: BW001

(1 of 2)



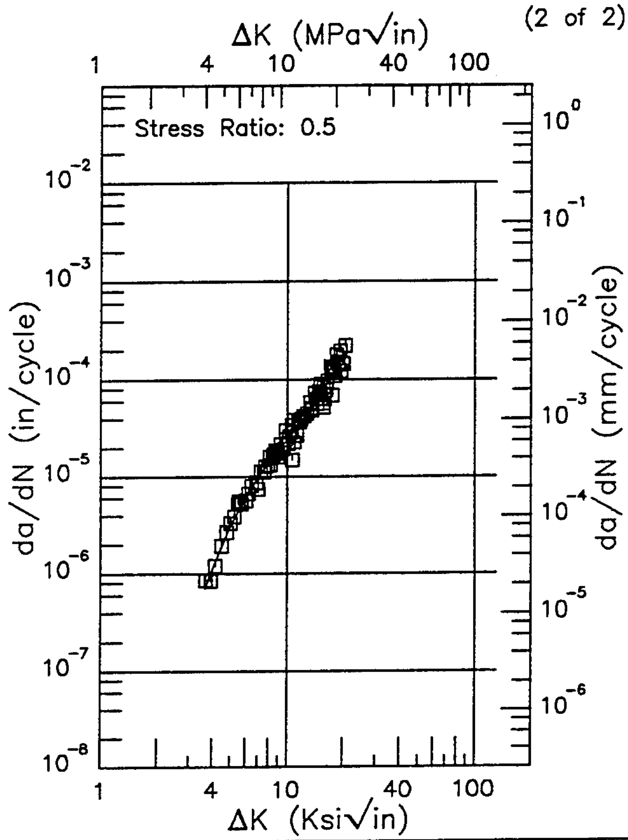
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
7.39 (min)	4.34
8.	6.21
9.	9.82
10.	13.8
13.	26.3
16.	37.8
20.	52.4
25.	76.9
30.	134.
35.	286.
40.	647.
50.	2433.
56.72 (max)	6823.

RMS % Error: 21.97

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.68 (min)	0.699
4.	1.10
5.	3.07
6.	5.98
7.	9.63
8.	13.9
9.	18.7
10.	24.2
13.	46.4
16.	82.7
20.	176.
20.47 (max)	192.

RMS % Error: 16.82

Life Prediction Ratio Summary

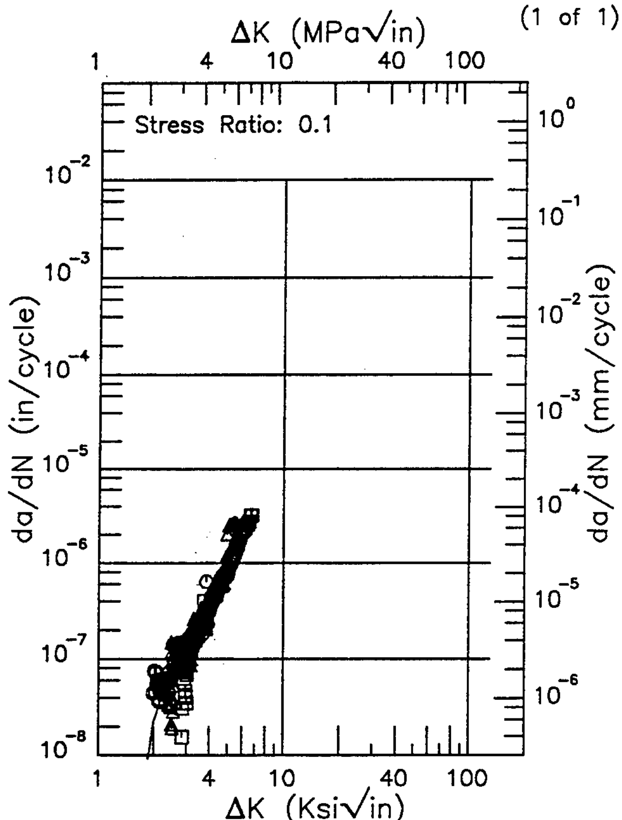
0. .5 .8 1.25 2.

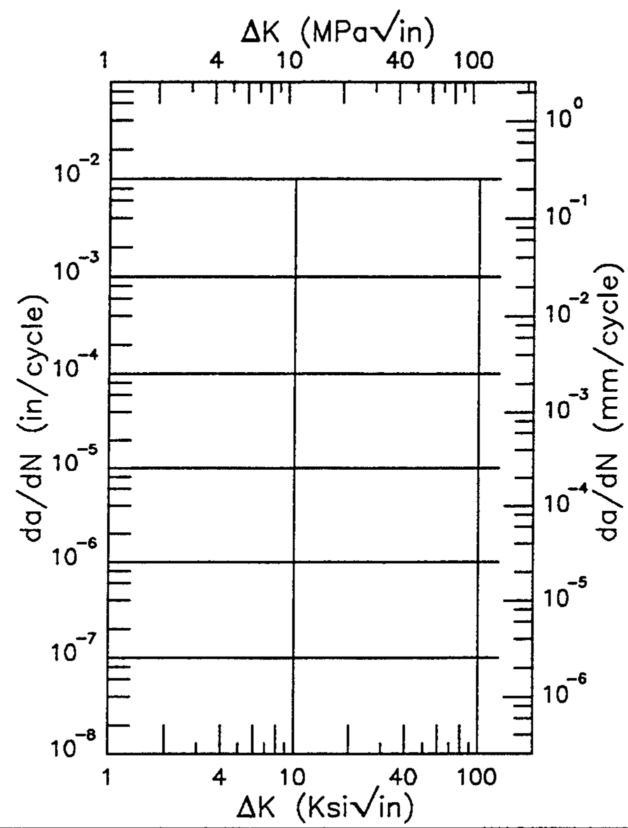
Figure 8.9.3.1.48

Condition/Ht: T6511
Form: Forging
Specimen Type: CT
Orientation: L–T
Frequency: 40 Hz
Environment: LAB AIR; RT

Yield Strength: 50 ksi
Ult. Strength:
Specimen Thk: 0.24 – 0.246 in.
Specimen Width: 1.999 – 2 in.
Ref: SA001

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.86 (min)	0.00905
2.	0.0225
2.5	0.0897
3.	0.123
3.5	0.175
4.	0.337
5.	1.18
6.	2.15
6.69 (max)	3.14

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
40.06	Δ ◻ ⊖ — 0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

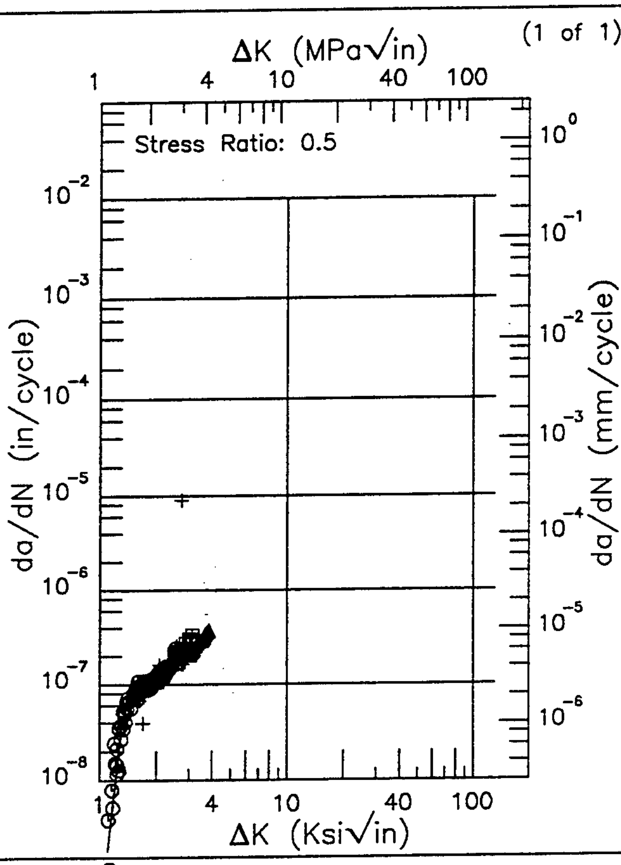
Figure 8.9.3.1.49

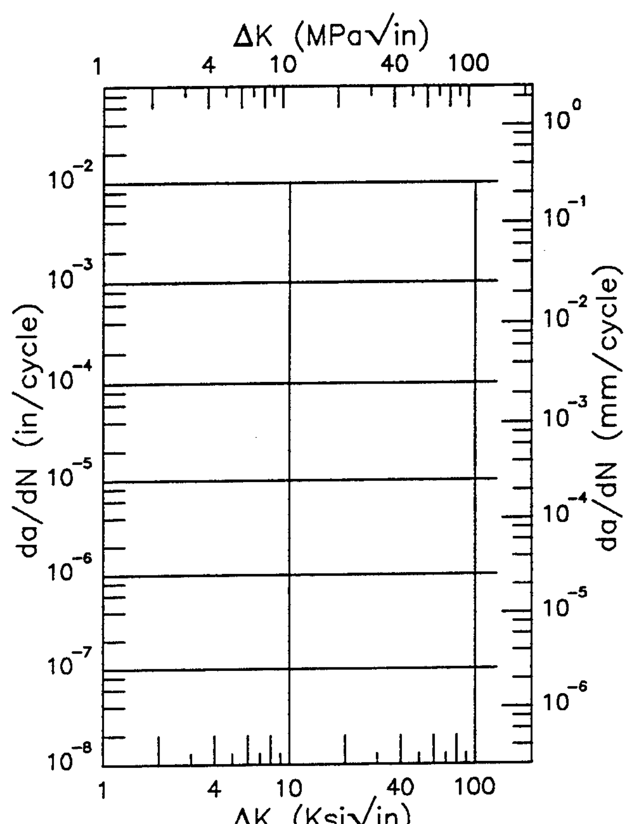
R

7075

Condition/Ht: T6511
Form: Forging
Specimen Type: CT
Orientation: L–T
Frequency: 30 Hz
Environment: LAB AIR; RT

Yield Strength: 50 – 100 ksi
Ult. Strength:
Specimen Thk: 0.246 – 0.247 in.
Specimen Width: 1.499 – 1.502 in.
Ref: SA001





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.11 (min)	0.00192
1.3	0.0335
1.6	0.0901
2.	0.112
2.5	0.193
3.	0.258
3.5	0.282
3.82 (max)	0.397

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
>100.0	0. .5 .8 1.25 2.

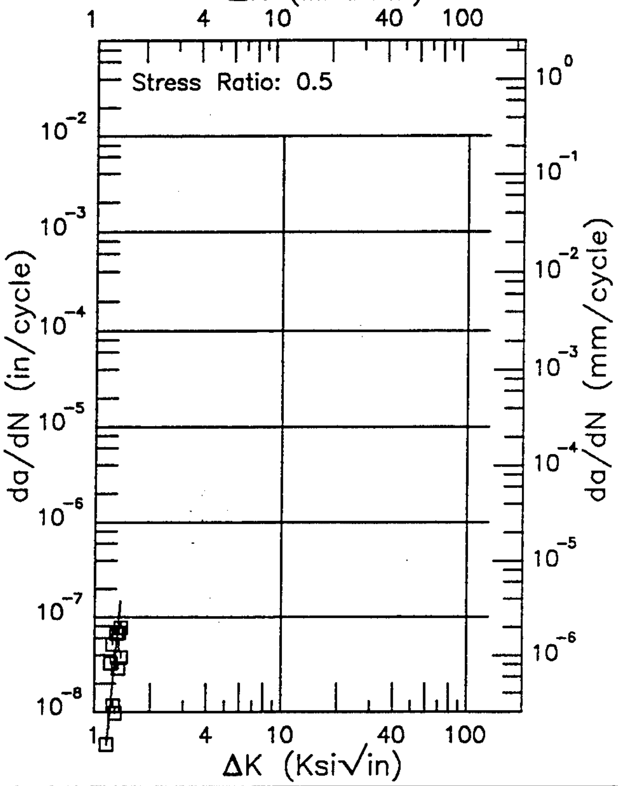
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

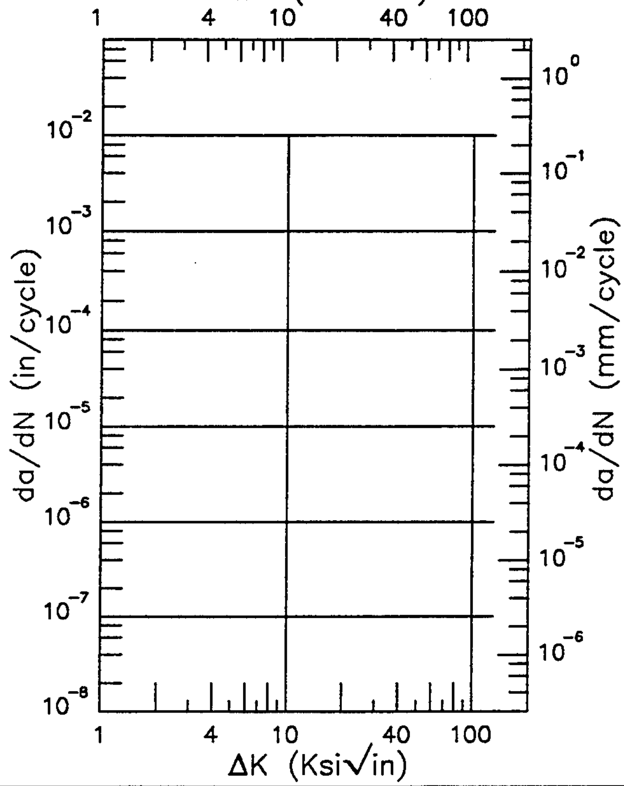
Figure 8.9.3.1.50

Condition/Ht: T6511 #6
Form: Forging
Specimen Type: CT
Orientation: L–T
Frequency: 30 Hz
Environment: LAB AIR; RT

Yield Strength: 50 ksi
Ult. Strength:
Specimen Thk: 0.247 in.
Specimen Width: 1.499 in.
Ref: SA001

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
1.16 (min)	0.00450
1.3	0.0438
1.37 (max)	0.150

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error	Life Prediction Ratio Summary
>100.0	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

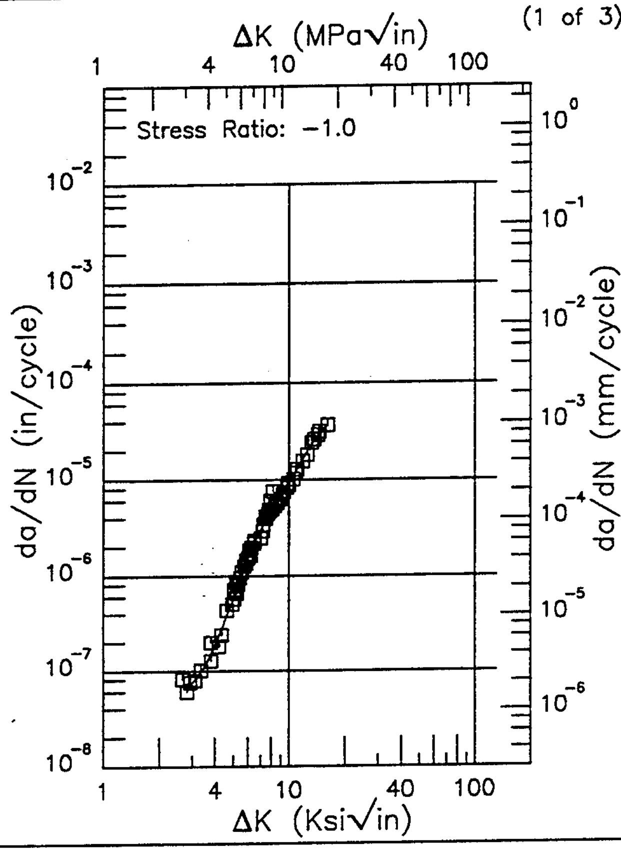
Figure 8.9.3.1.51

R 7075

Condition/Ht: T73
Form: 0.5 in. Plate
Specimen Type: CCP (max stress specified)
Orientation: L–T
Frequency: 20 Hz
Environment: LAB AIR; RT

Yield Strength: 56 ksi
Ult. Strength: 67.1 ksi
Specimen Thk: 0.5 in.
Specimen Width: 3 in.
Ref: UD006

(1 of 3)



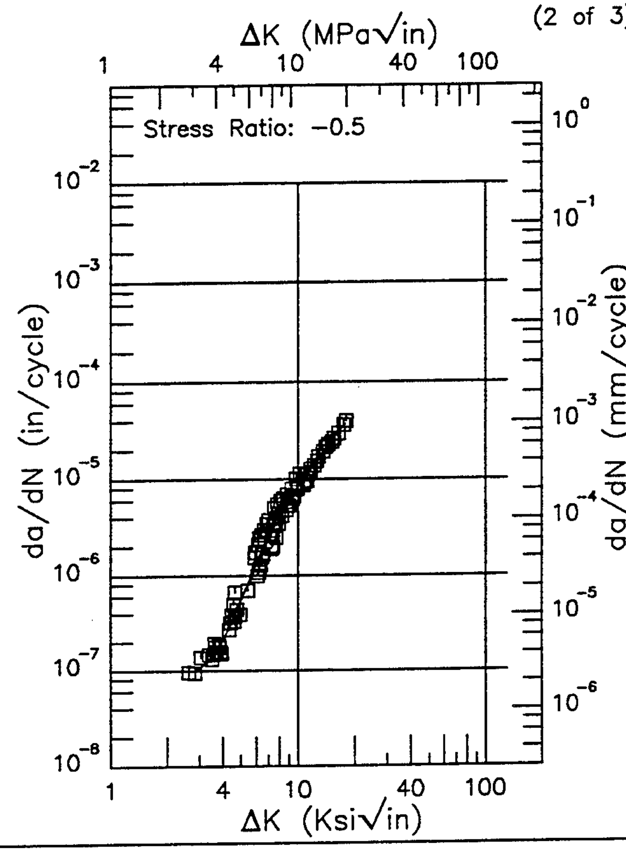
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.66 (min)	0.0716
3.	0.0749
3.5	0.108
4.	0.184
5.	0.569
6.	1.49
7.	3.04
8.	4.85
9.	6.78
10.	9.02
13.	22.2
16.	36.4
16.08 (max)	36.4

RMS % Error 12.11

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.60 (min)	0.112
3.	0.106
3.5	0.137
4.	0.209
5.	0.551
6.	1.34
7.	2.71
8.	4.53
9.	6.49
10.	8.53
13.	16.4
16.	29.3
17.97 (max)	37.7

RMS % Error 22.83

Life Prediction Ratio Summary

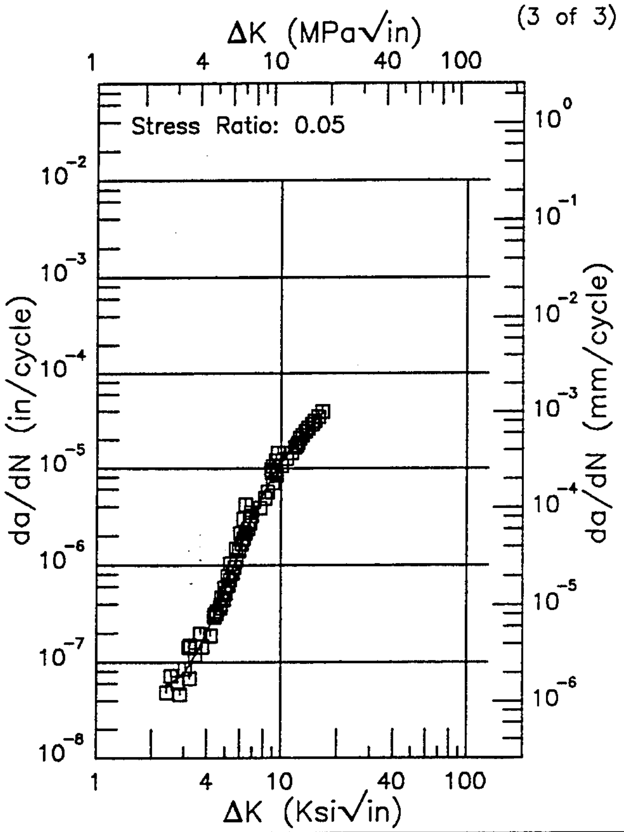
0. .5 .8 1.25 2.

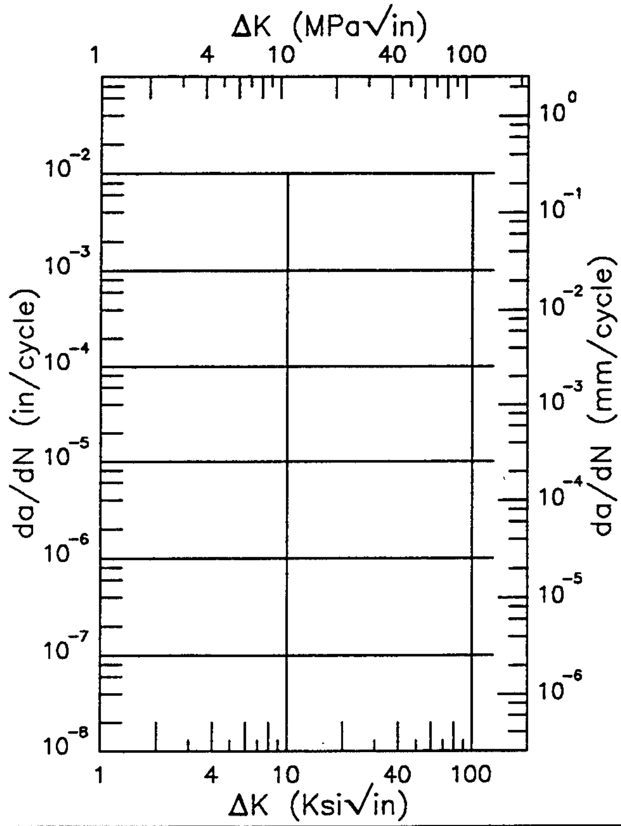
Figure 8.9.3.1.52

Condition/Ht: T73
Form: 0.5 in. Plate
Specimen Type: CCP (max stress specified)
Orientation: L–T
Frequency: 20 Hz
Environment: LAB AIR; RT

Yield Strength: 56 ksi
Ult. Strength: 67.1 ksi
Specimen Thk: 0.5 in.
Specimen Width: 3 in.
Ref: UD006

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.40 (min)	0.0584
2.5	0.0590
3.	0.0769
3.5	0.121
4.	0.205
5.	0.580
6.	1.45
7.	3.06
8.	5.48
9.	8.45
10.	11.4
13.	20.9
16.	35.9
16.61 (max)	37.8

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
23.41	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.9.3.1.52 (Concluded)

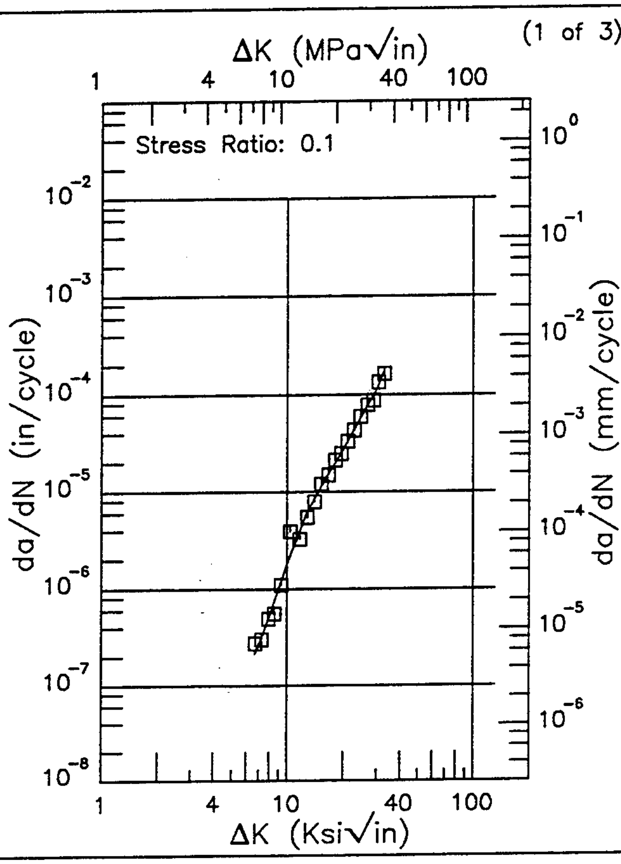
R

7075

Condition/Ht: T73
Form: 1.5 in. Forged Bar
Specimen Type: CT
Orientation: L–T
Frequency: 1 Hz
Environment: H.H.A.; RT

Yield Strength: 62.7 ksi
Ult. Strength: 71.7 ksi
Specimen Thk: 0.755 – 0.757 in.
Specimen Width: 4.994 – 4.999 in.
Ref: GD008

(1 of 3)

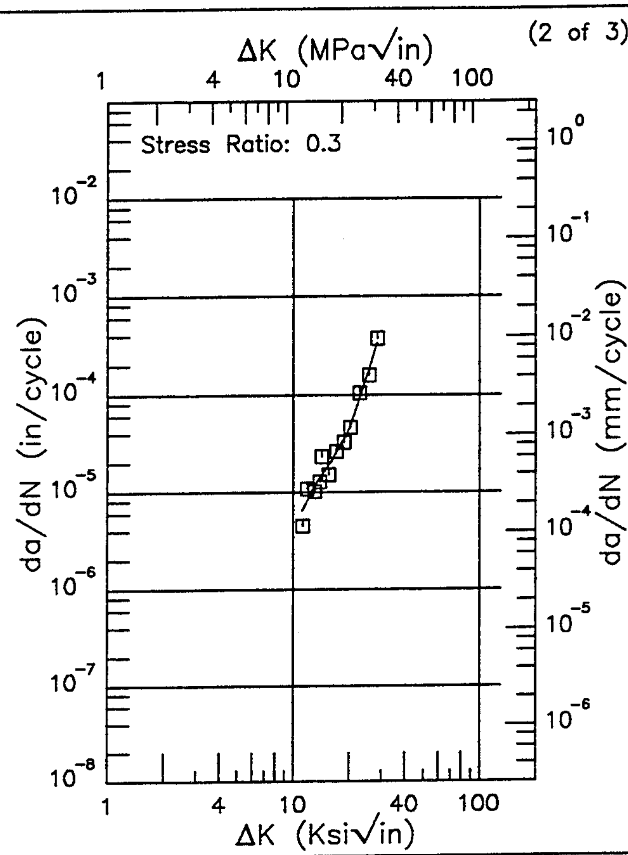


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.70 (min)	0.217
7.	0.266
8.	0.528
9.	1.01
10.	1.81
13.	6.59
16.	13.6
20.	27.3
25.	61.7
30.	113.
32.68 (max)	170.

RMS % Error
20.72

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
11.18 (min)	6.45
13.	11.7
16.	20.6
20.	44.5
25.	157.
28.35 (max)	336.

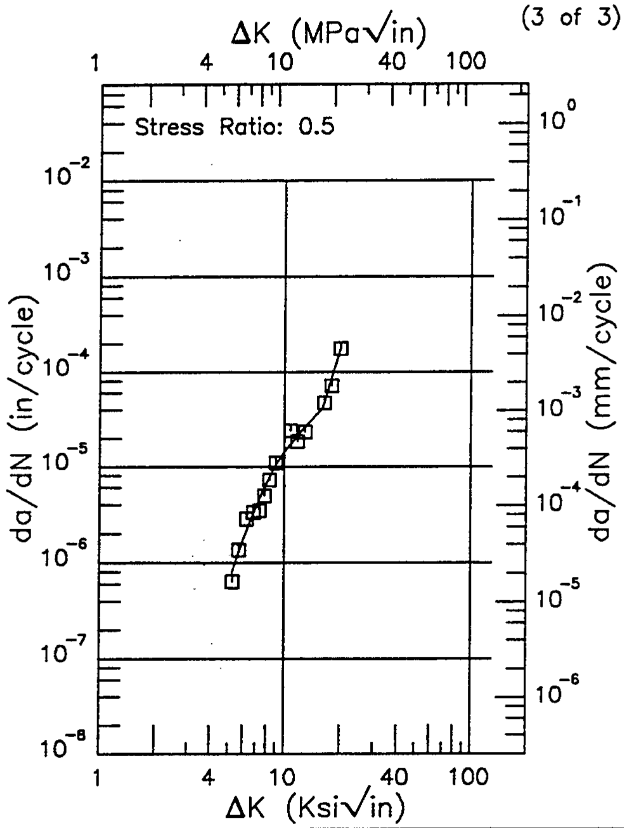
RMS % Error
22.41

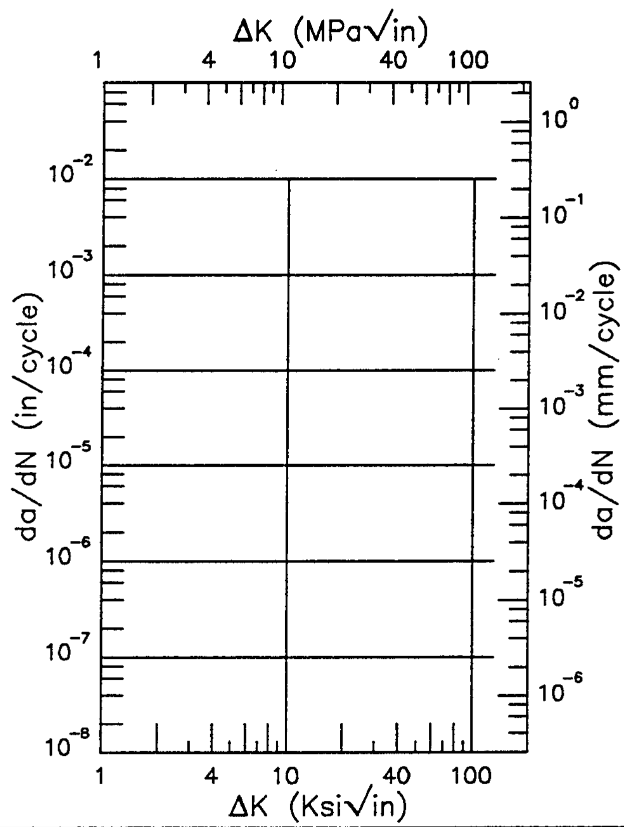
Life Prediction Ratio Summary
0. .5 .8 1.25 2.

Figure 8.9.3.1.53

Condition/Ht: T73	Yield Strength: 62.7 ksi
Form: 1.5 in. Forged Bar	Ult. Strength: 71.7 ksi
Specimen Type: CT	Specimen Thk: 0.755 – 0.757 in.
Orientation: L-T	Specimen Width: 4.994 – 4.999 in.
Frequency: 1 Hz	Ref: GD008
Environment: H.H.A.; RT	

(3 of 3)



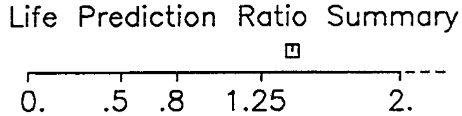


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.25 (min)	0.784
6.	1.71
7.	3.75
8.	6.72
9.	10.4
10.	14.6
13.	26.2
16.	41.9
19.91 (max)	180.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error 17.81

Life Prediction Ratio Summary



RMS % Error

Life Prediction Ratio Summary

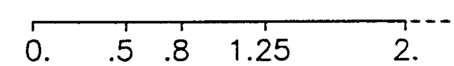


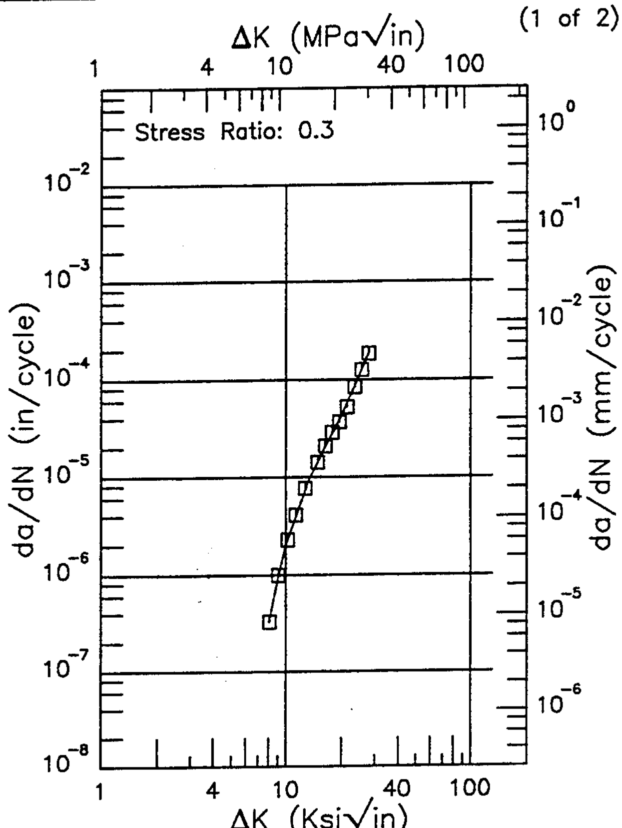
Figure 8.9.3.1.53 (Concluded)

R ┤ 7075 ├

Condition/Ht: T73
Form: 1.5 in. Forged Bar
Specimen Type: CT
Orientation: L-T
Frequency: 4 Hz
Environment: DRY AIR; RT

Yield Strength: 62.7 ksi
Ult. Strength: 71.7 ksi
Specimen Thk: 0.751 – 0.755 in.
Specimen Width: 4.999 – 5.007 in.
Ref: GD008

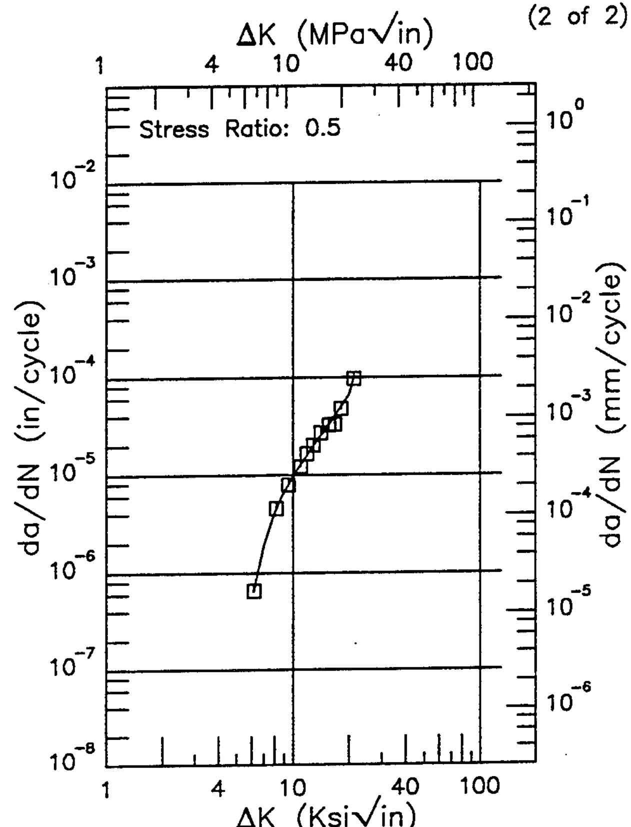
(1 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
8.11 (min)	0.330
9.	0.912
10.	2.05
13.	8.23
16.	19.1
20.	42.0
25.	115.
27.74 (max)	182.

RMS % Error	Life Prediction Ratio Summary
3.11	0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.18 (min)	0.652
7.	1.86
8.	4.13
9.	6.80
10.	9.62
13.	20.5
16.	34.5
20.	65.6
21.19 (max)	96.6

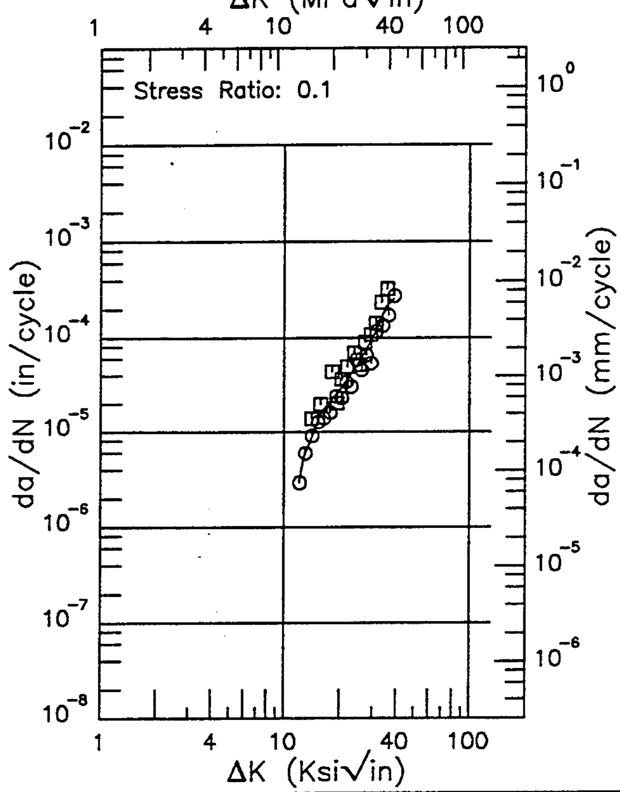
RMS % Error	Life Prediction Ratio Summary
5.94	0. .5 .8 1.25 2.

Figure 8.9.3.1.54

Condition/Ht: T73
Form: 1.5 in. Forged Bar
Specimen Type: CT
Orientation: L–T
Frequency: 1 Hz
Environment: S.T.W.; RT

Yield Strength: 62.7 ksi
Ult. Strength: 71.7 ksi
Specimen Thk: 0.755 – 0.756 in.
Specimen Width: 5.001 – 5.003 in.
Ref: GD008

(1 of 2)

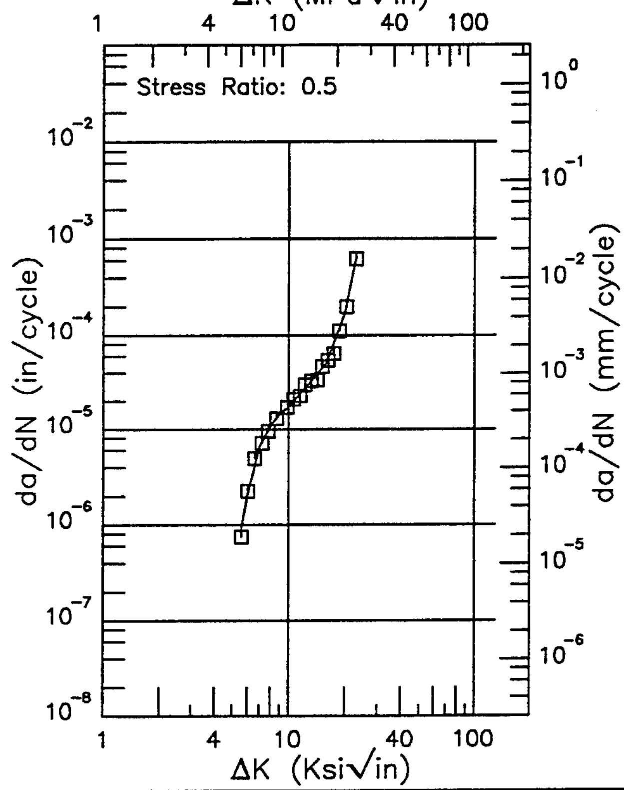


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
12.10 (min)	3.03
13.	5.86
16.	16.6
20.	28.0
25.	53.0
30.	99.3
35.	209.
39.14 (max)	259.

RMS % Error: 31.71

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.57 (min)	0.841
6.	2.00
7.	6.45
8.	11.0
9.	14.4
10.	17.4
13.	31.1
16.	49.9
20.	171.
22.94 (max)	613.

RMS % Error: 8.66

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

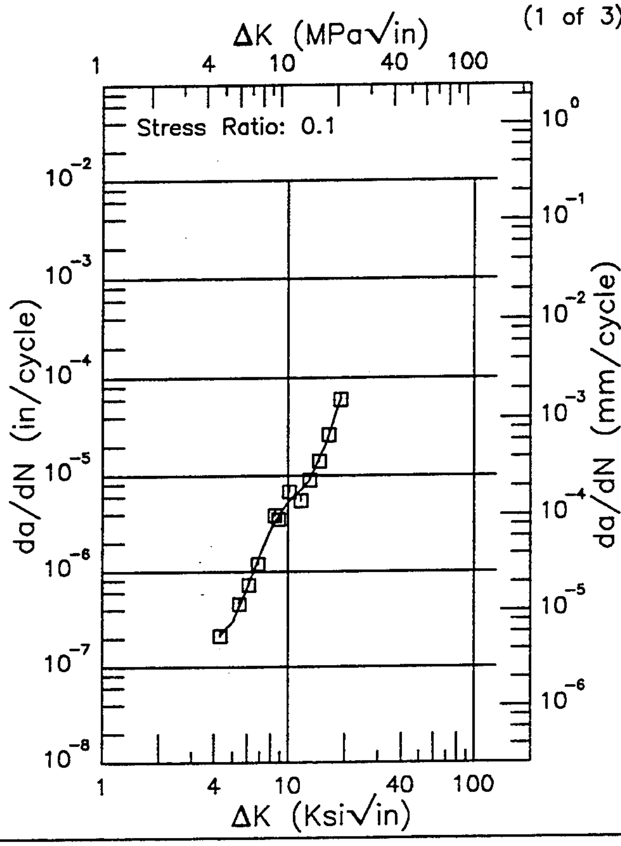
Figure 8.9.3.1.55

R 7075

Condition/Ht: T73
Form: 1.5 in. Forged Bar
Specimen Type: CT
Orientation: T–L
Frequency: 4 Hz
Environment: DRY AIR; RT

Yield Strength: 61.8 ksi
Ult. Strength: 70.7 ksi
Specimen Thk: 0.75 – 0.752 in.
Specimen Width: 4.988 – 5.001 in.
Ref: GD008

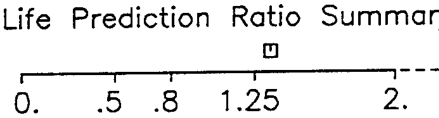
(1 of 3)



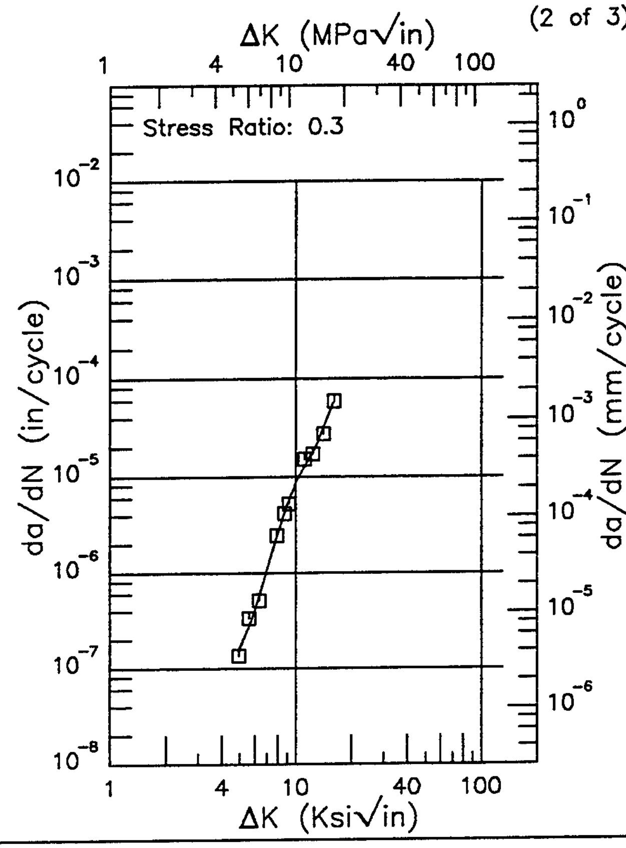
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.28 (min)	0.214
5.	0.300
6.	0.667
7.	1.47
8.	2.71
9.	4.06
10.	5.30
13.	8.81
16.	22.2
18.92 (max)	59.4

RMS % Error
11.86

Life Prediction Ratio Summary



(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.93 (min)	0.155
5.	0.164
6.	0.413
7.	1.08
8.	2.57
9.	5.19
10.	8.85
13.	21.2
16.	56.6
16.05 (max)	57.8

RMS % Error
10.60

Life Prediction Ratio Summary

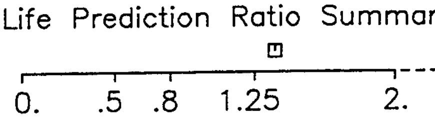
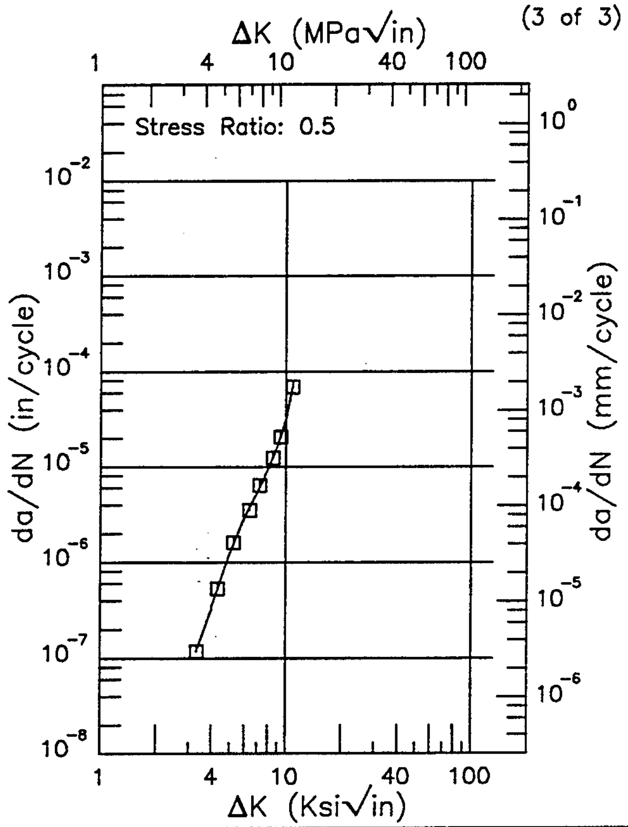


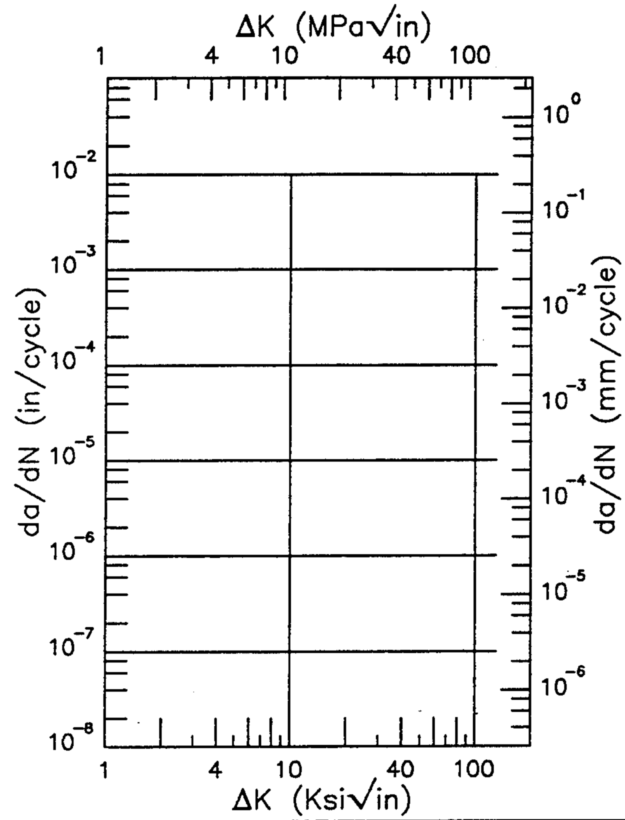
Figure 8.9.3.1.56

Condition/Ht: T73
Form: 1.5 in. Forged Bar
Specimen Type: CT
Orientation: T–L
Frequency: 4 Hz
Environment: DRY AIR; RT

Yield Strength: 61.8 ksi
Ult. Strength: 70.7 ksi
Specimen Thk: 0.75 – 0.752 in.
Specimen Width: 4.988 – 5.001 in.
Ref: GD008

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.30 (min)	0.118
3.5	0.158
4.	0.339
5.	1.27
6.	2.97
7.	5.45
8.	9.49
9.	16.5
10.	31.7
10.81 (max)	68.7

ΔK (Ksi√in) da/dN (10^{-6}in/cycle)

RMS % Error
3.14

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

Figure 8.9.3.1.56 (Concluded)

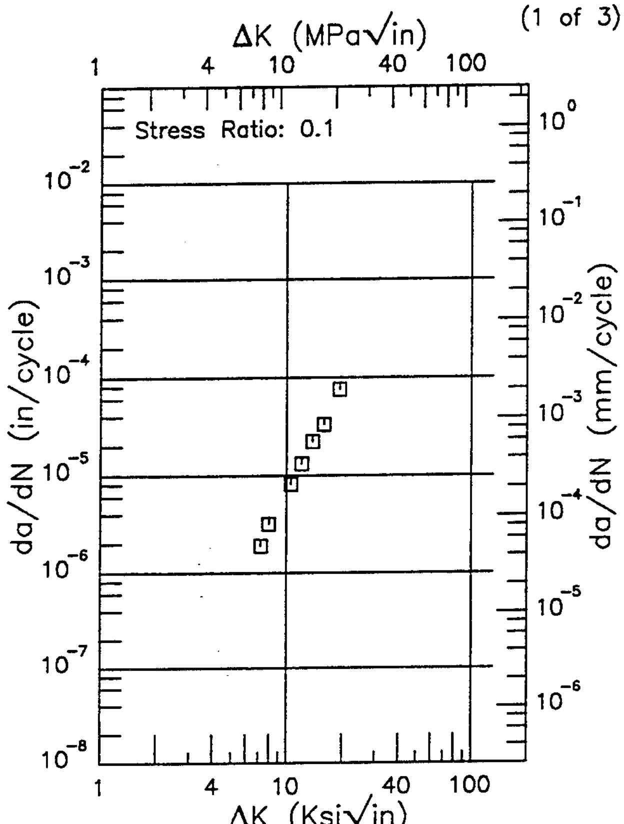
R

7075

Condition/Ht: T73
Form: 1.5 in. Forged Bar
Specimen Type: CT
Orientation: T–L
Frequency: 1 Hz
Environment: H.H.A.; RT

Yield Strength: 61.8 ksi
Ult. Strength: 70.7 ksi
Specimen Thk: 0.75 – 0.754 in.
Specimen Width: 4.999 – 5.008 in.
Ref: GD008

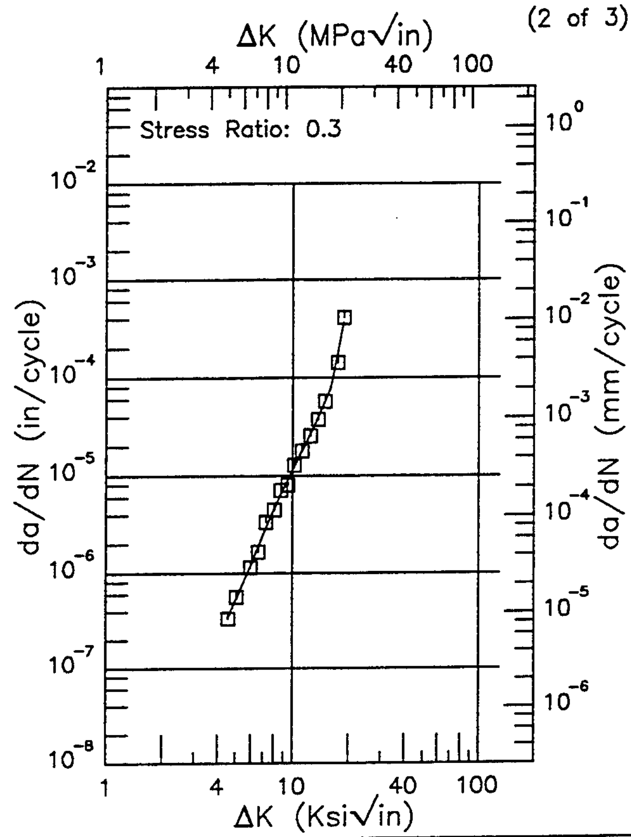
(1 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.55 (min)	0.341
5.	0.518
6.	1.20
7.	2.46
8.	4.51
9.	7.50
10.	11.5
13.	31.0
16.	76.5
18.80 (max)	368.

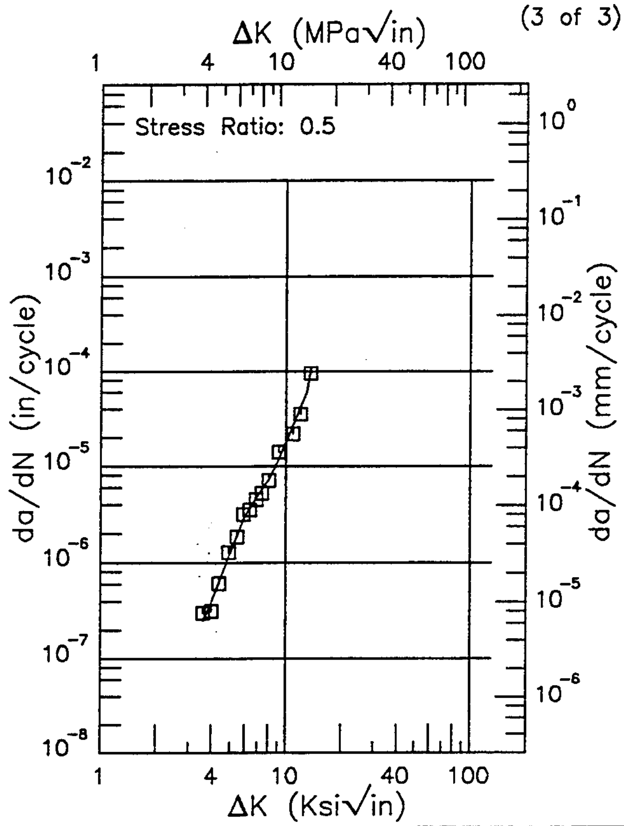
RMS % Error	Life Prediction Ratio Summary
9.15	0. .5 .8 1.25 2.

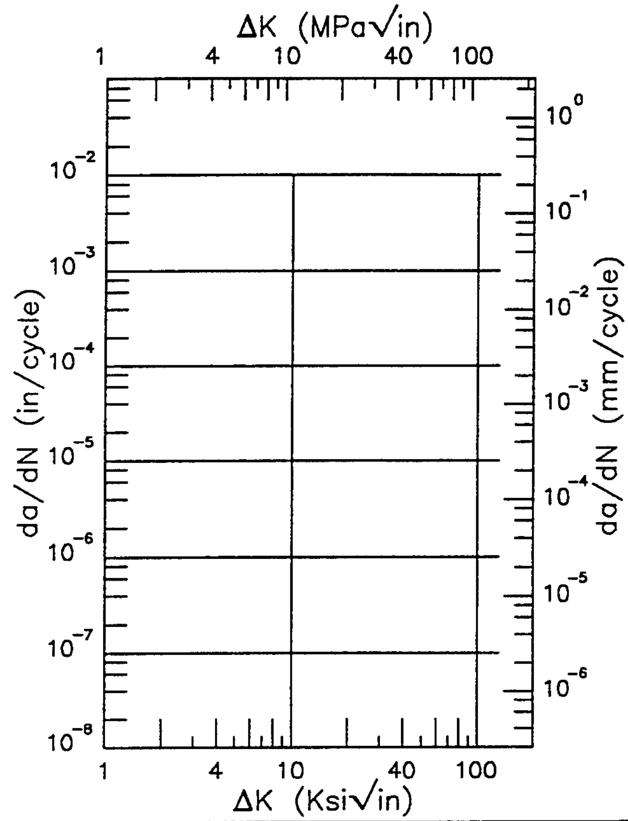
Figure 8.9.3.1.57

Condition/Ht: T73
Form: 1.5 in. Forged Bar
Specimen Type: CT
Orientation: T–L
Frequency: 1 Hz
Environment: H.H.A.; RT

Yield Strength: 61.8 ksi
Ult. Strength: 70.7 ksi
Specimen Thk: 0.75 – 0.754 in.
Specimen Width: 4.999 – 5.008 in.
Ref: GD008

(3 of 3)



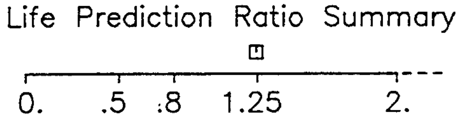


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.59 (min)	0.251
4.	0.389
5.	1.26
6.	3.03
7.	4.94
8.	7.19
9.	11.2
10.	18.0
13.	60.0
13.47 (max)	95.3

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
11.20

Life Prediction Ratio Summary



RMS % Error

Life Prediction Ratio Summary

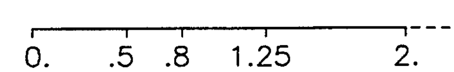


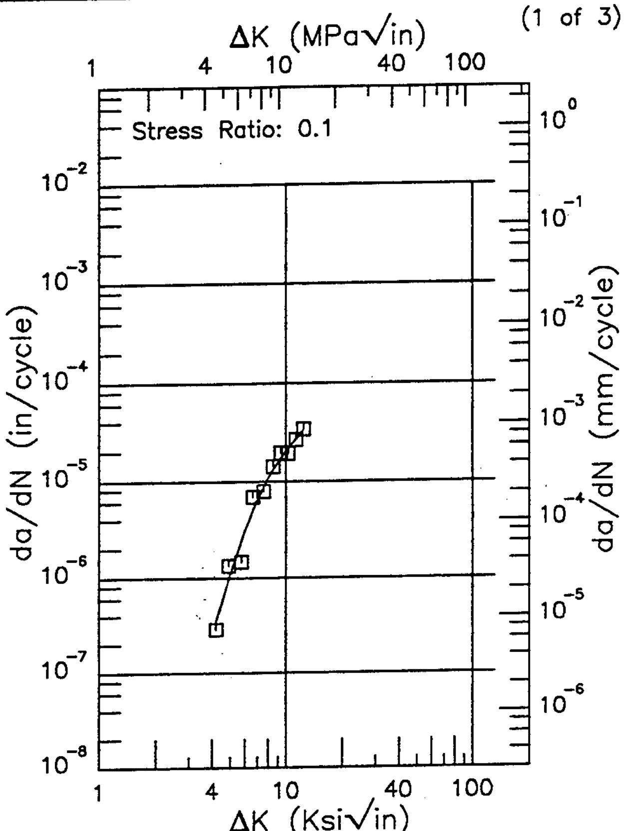
Figure 8.9.3.1.57 (Concluded)

R 7075

Condition/Ht: T73
Form: 1.5 in. Forged Bar
Specimen Type: CT
Orientation: T-L
Frequency: 1 Hz
Environment: S.T.W.; RT

Yield Strength: 61.8 ksi
Ult. Strength: 70.7 ksi
Specimen Thk: 0.75 – 0.752 in.
Specimen Width: 4.99 – 5.01 in.
Ref: GD008

(1 of 3)



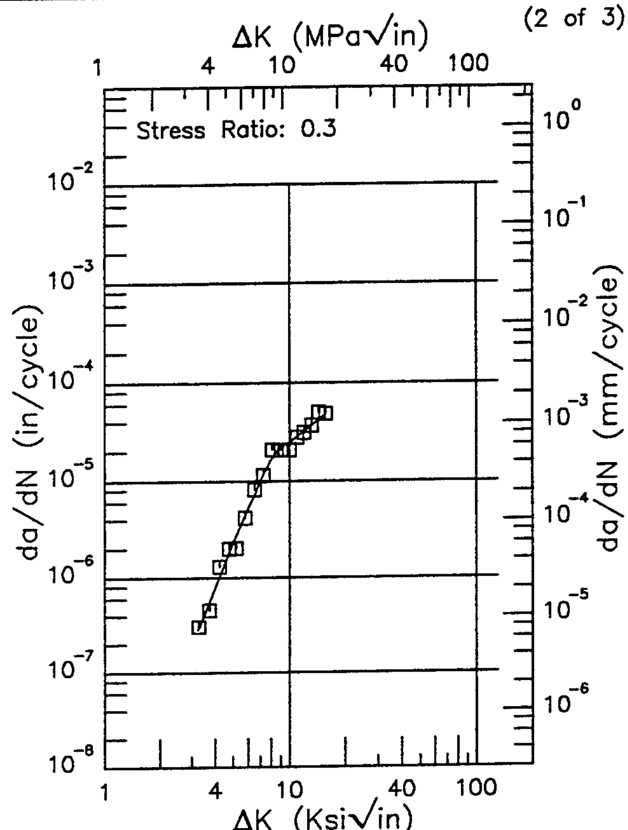
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.18 (min)	0.332
5.	1.07
6.	3.07
7.	6.49
8.	11.0
9.	15.7
10.	20.4
12.40 (max)	33.0

RMS % Error
22.77

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.24 (min)	0.281
3.5	0.408
4.	0.779
5.	2.28
6.	5.28
7.	10.3
8.	16.6
9.	22.2
10.	24.8
13.	36.5
15.65 (max)	47.7

RMS % Error
13.84

Life Prediction Ratio Summary

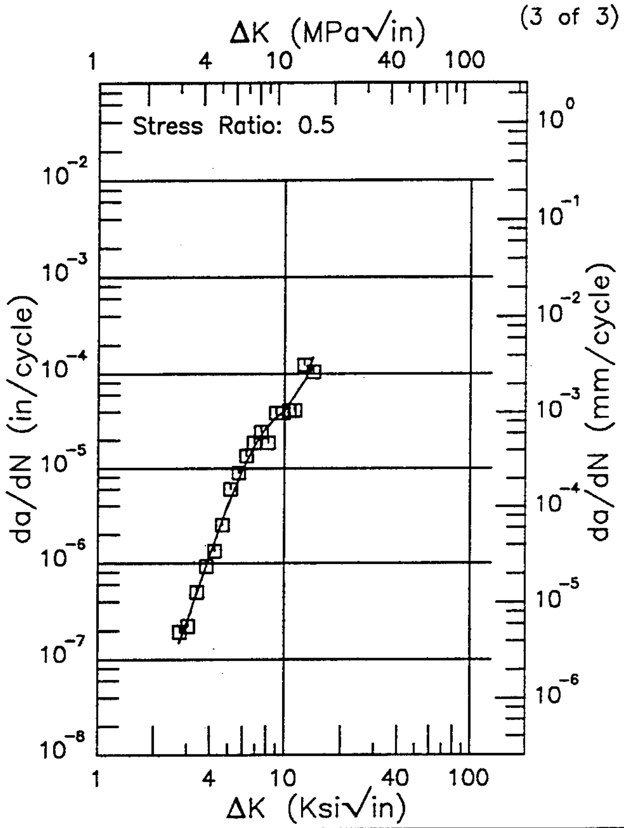
0. .5 .8 1.25 2.

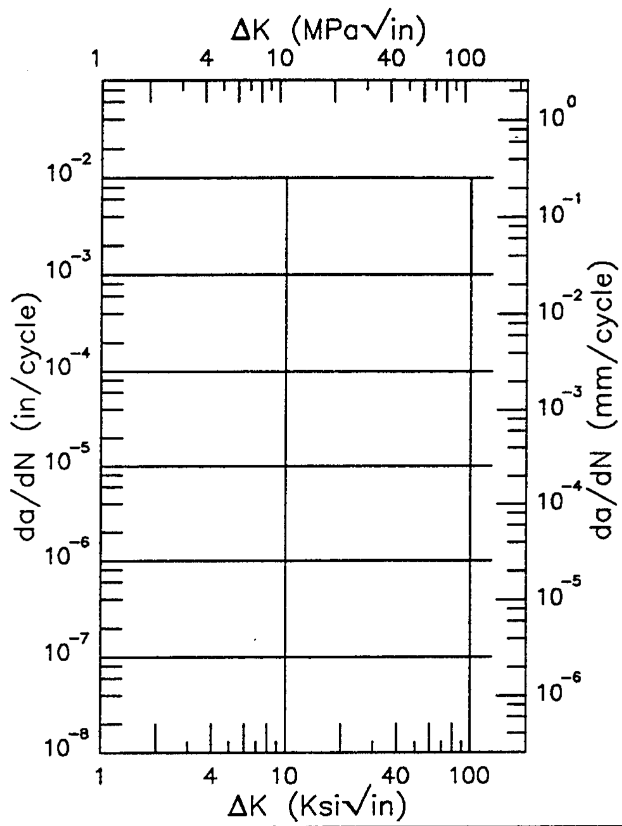
Figure 8.9.3.1.58

Condition/Ht: T73
Form: 1.5 in. Forged Bar
Specimen Type: CT
Orientation: T-L
Frequency: 1 Hz
Environment: S.T.W.; RT

Yield Strength: 61.8 ksi
Ult. Strength: 70.7 ksi
Specimen Thk: 0.75 – 0.752 in.
Specimen Width: 4.99 – 5.01 in.
Ref: GD008

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.74 (min)	0.150
3.	0.242
3.5	0.567
4.	1.21
5.	4.08
6.	9.88
7.	18.3
8.	27.3
9.	34.5
10.	40.6
13.	89.3
14.11 (max)	150.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
21.85

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

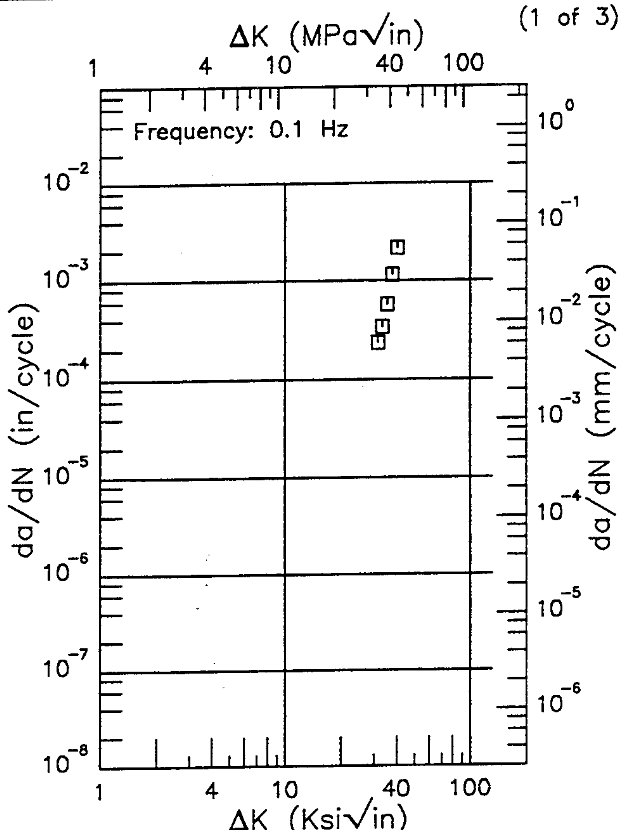
Figure 8.9.3.1.58 (Concluded)

F 7075

Condition/Ht: T7351
Form: 1.25 – 4 in. Plate
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.02
Environment: LAB AIR; RT

Yield Strength: 53.2 ksi
Ult. Strength: 65.1 ksi
Specimen Thk: 1.25 in.
Specimen Width: 5 in.
Ref: 84363

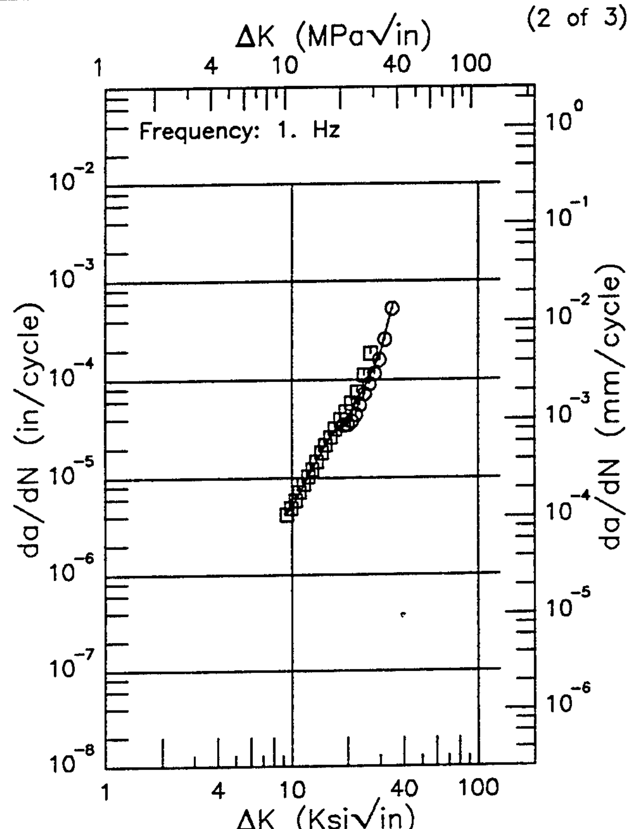
(1 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
9.36 (min)	4.23
10.	5.04
13.	12.9
16.	25.5
20.	41.5
25.	86.9
30.	184.
34.34 (max)	531.

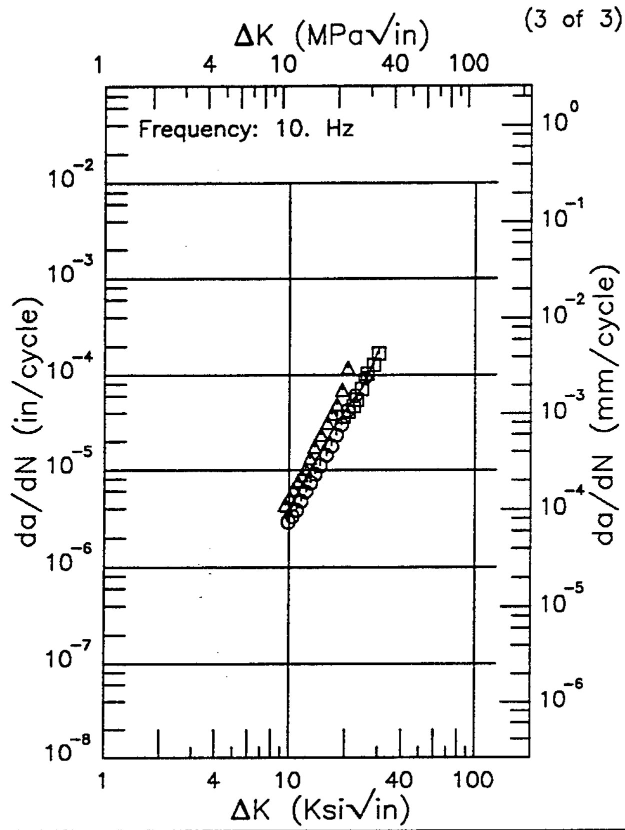
RMS % Error	Life Prediction Ratio Summary
18.38	0. .5 .8 1.25 2.

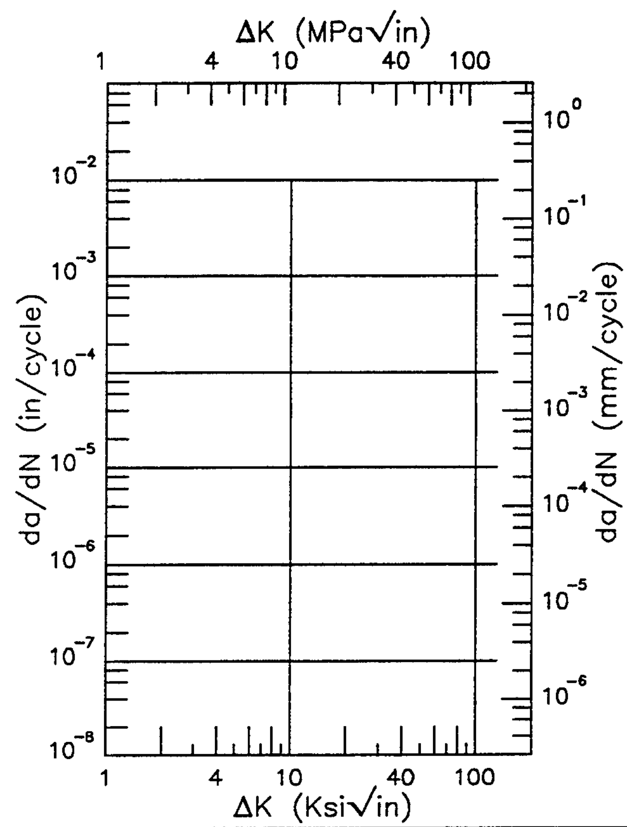
Figure 8.9.3.1.59

Condition/Ht: T7351
Form: 1.25 – 4 in. Plate
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.02
Environment: LAB AIR; RT

Yield Strength: 53.2 ksi
Ult. Strength: 65.1 ksi
Specimen Thk: 1.25 in.
Specimen Width: 5 in.
Ref: 84363

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
9.46 (min)	3.45
10.	4.06
13.	10.1
16.	21.4
20.	42.8
25.	78.0
30.00 (max)	179.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
41.60	○ □ △ — 0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

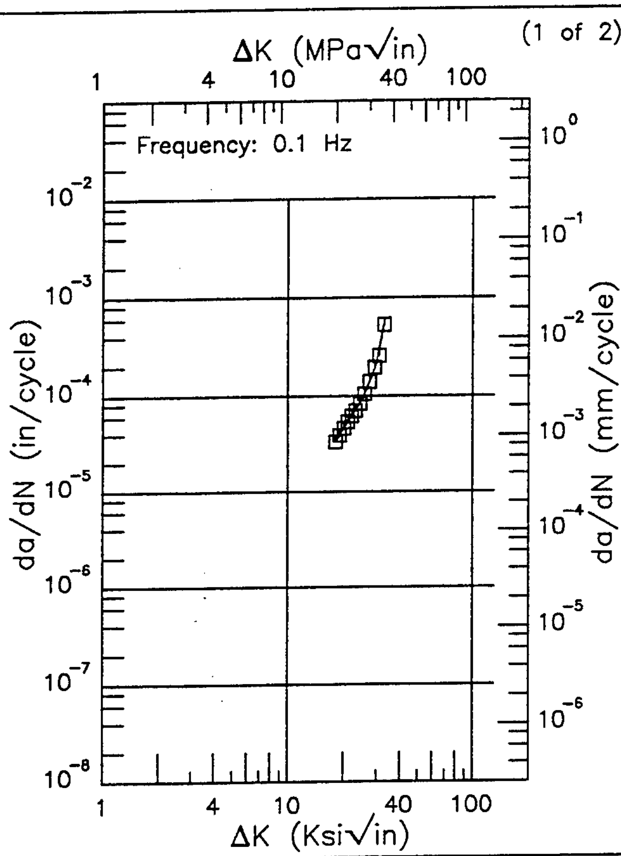
Figure 8.9.3.1.59 (Concluded)

F 7075

Condition/Ht: T7351
Form: 1.25 — 4 in. Plate
Specimen Type: CT
Orientation: L—T
Stress Ratio: 0.02
Environment: DIST WATER; RT

Yield Strength: 53.2 ksi
Ult. Strength: 65.1 ksi
Specimen Thk: 1.25 in.
Specimen Width: 5 in.
Ref: 84363

(1 of 2)



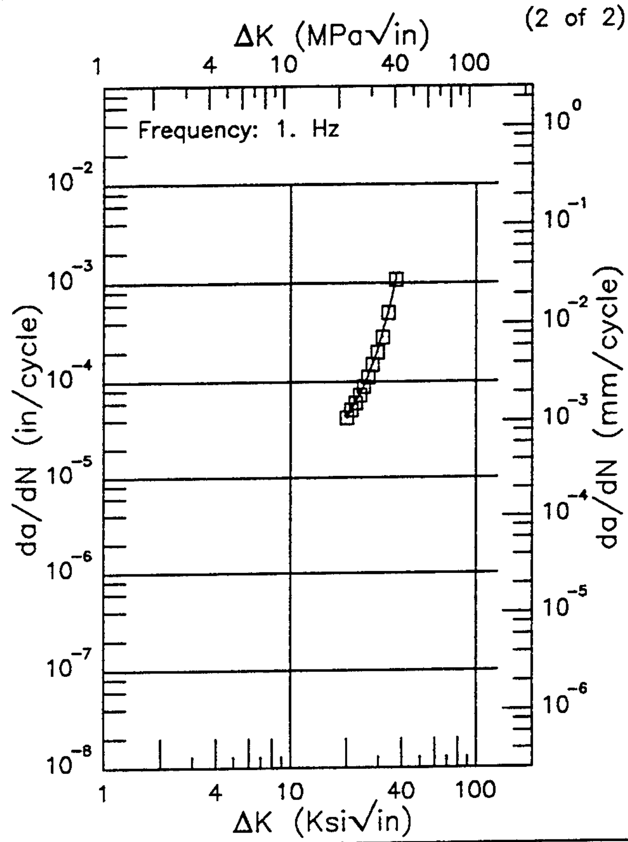
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
18.10 (min)	33.4
20.	46.3
25.	91.2
30.	221.
32.70 (max)	529.

RMS % Error 3.03

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
20.15 (min)	42.5
25.	90.0
30.	220.
35.	652.
37.06 (max)	1072.

RMS % Error 2.44

Life Prediction Ratio Summary

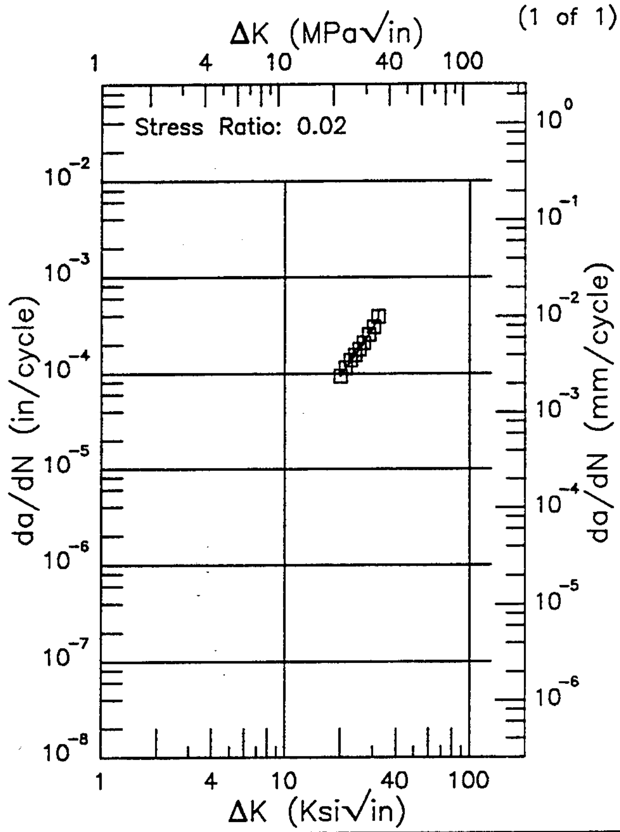
0. .5 .8 1.25 2.

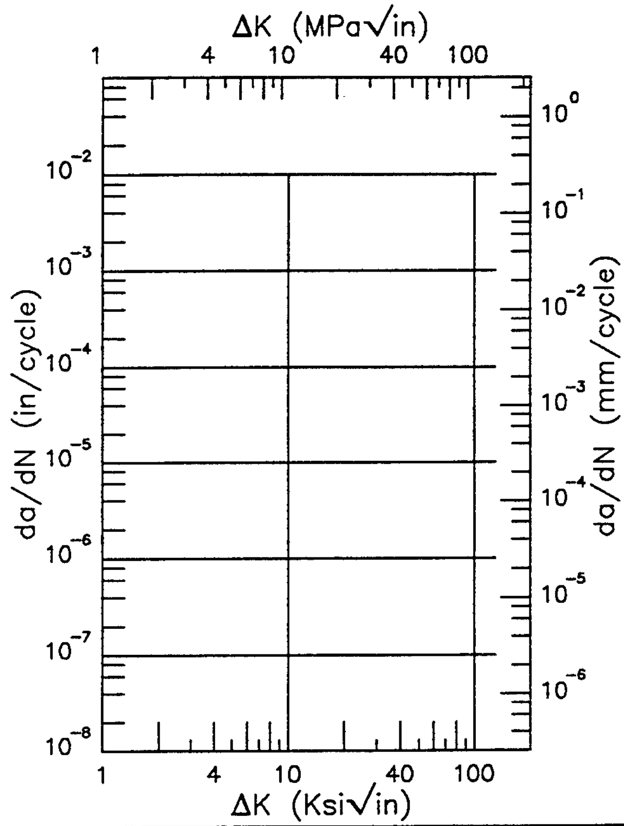
Figure 8.9.3.1.60

Condition/Ht: T7351
Form: 1.25 in. Plate
Specimen Type: CT
Orientation: L–T
Frequency: 0.1 Hz
Environment: 3.5% NACL; RT

Yield Strength: 53.2 ksi
Ult. Strength: 65.1 ksi
Specimen Thk: 1.25 in.
Specimen Width: 5 in.
Ref: 84363

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
20.00 (min)	93.8
25.	173.
30.	296.
32.13 (max)	390.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
1.70	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

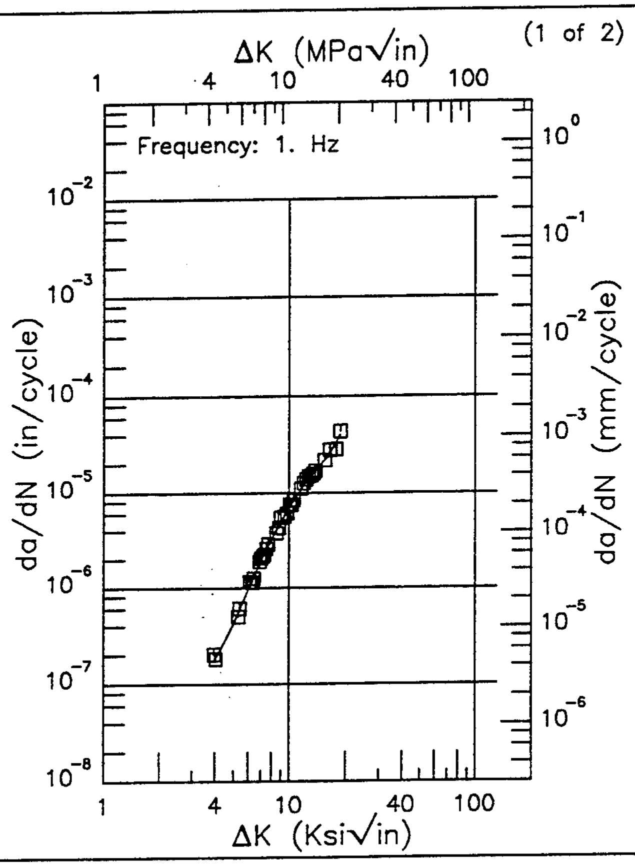
Figure 8.9.3.1.61

F 7075

Condition/Ht: T7351
Form: 2 in. Plate
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.08
Environment: L.H.A.; RT

Yield Strength: 58 – 63 ksi
Ult. Strength: 70 – 74 ksi
Specimen Thk: 0.994 – 1 in.
Specimen Width: 7.4 in.
Ref: 88579;85837

(1 of 2)



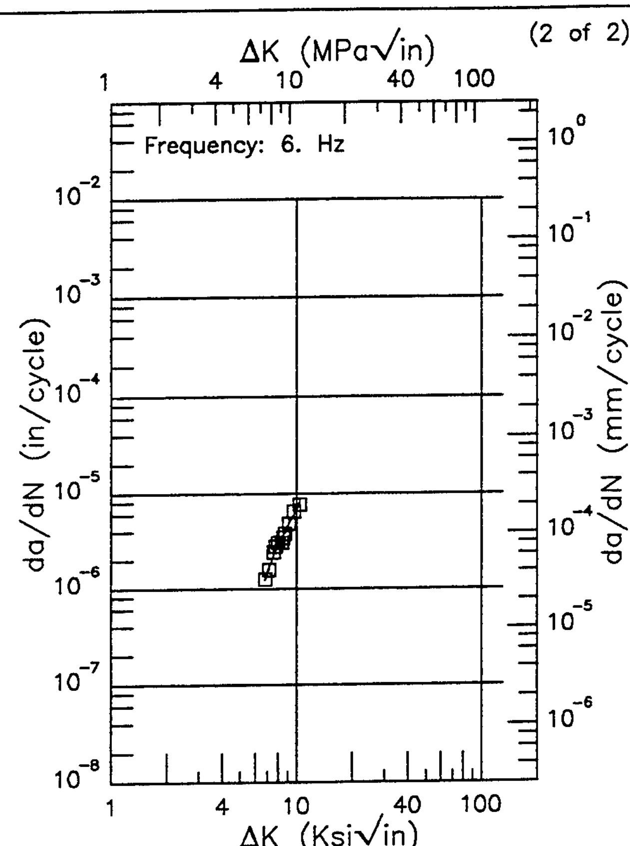
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.94 (min)	0.170
4.	0.178
5.	0.418
6.	0.951
7.	1.90
8.	3.28
9.	5.00
10.	7.03
13.	15.1
16.	23.7
18.66 (max)	40.2

RMS % Error 6.46

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.79 (min)	1.24
7.	1.51
8.	2.98
9.	4.63
10.	6.86
10.38 (max)	8.04

RMS % Error 8.21

Life Prediction Ratio Summary

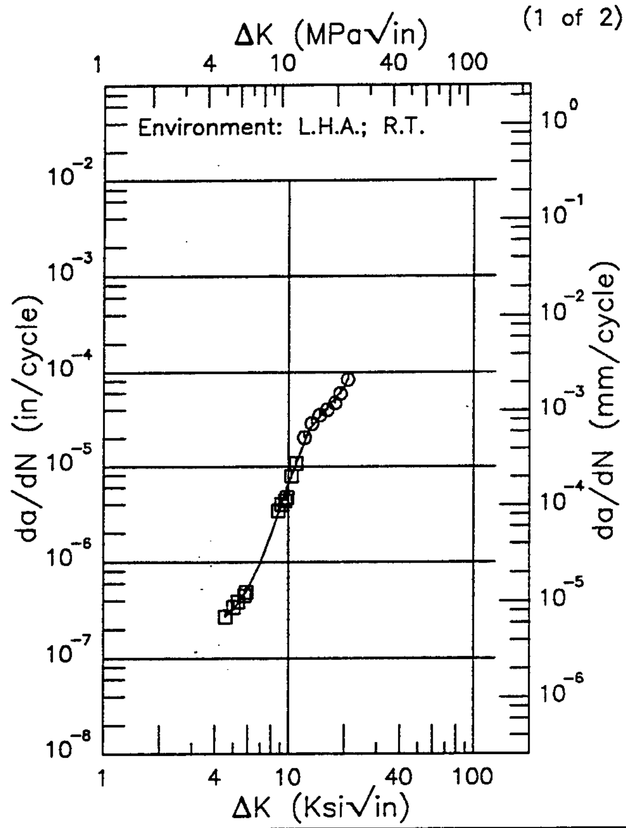
0. .5 .8 1.25 2.

Figure 8.9.3.1.62

Condition/Ht: T7351
Form: 2 in. Plate
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.08
Frequency: 6 Hz

Yield Strength: 64.7 – 65 ksi
Ult. Strength: 75.5 – 76 ksi
Specimen Thk: 0.816 – 0.82 in.
Specimen Width: 6 in.
Ref: 88579;85837

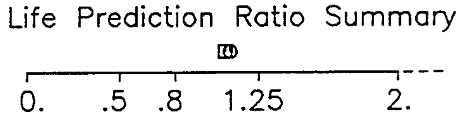
(1 of 2)



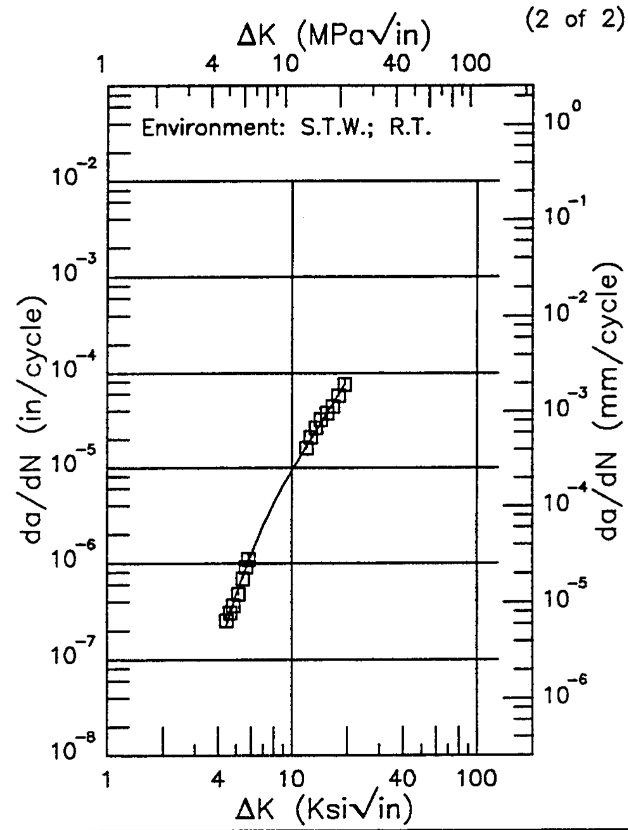
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.55 (min)	0.275
5.	0.321
6.	0.533
7.	0.988
8.	1.91
9.	3.68
10.	6.85
13.	24.9
16.	40.9
20.	69.3
20.75 (max)	83.6

RMS % Error: 8.58

Life Prediction Ratio Summary



(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.42 (min)	0.225
5.	0.470
6.	1.22
7.	2.45
8.	4.20
9.	6.49
10.	9.33
13.	21.6
16.	41.1
19.29 (max)	75.0

RMS % Error: 5.83

Life Prediction Ratio Summary

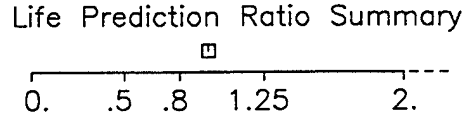


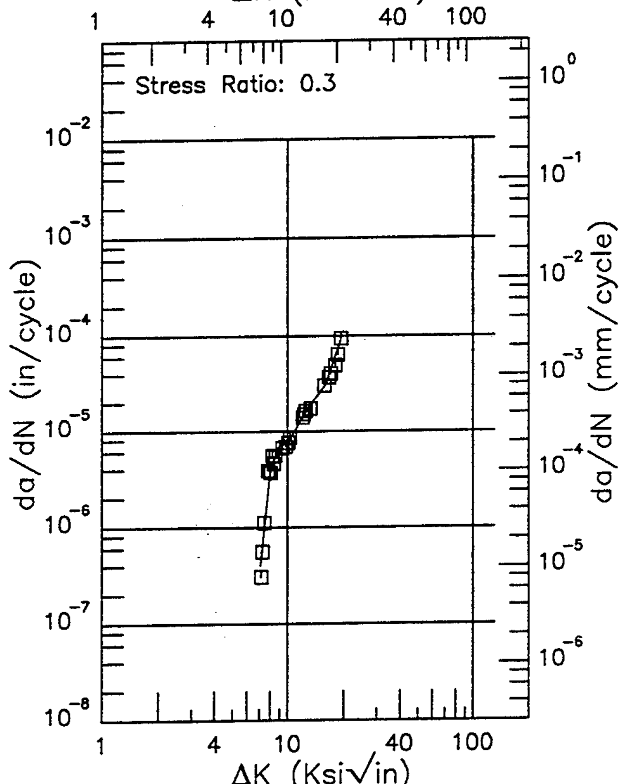
Figure 8.9.3.1.63

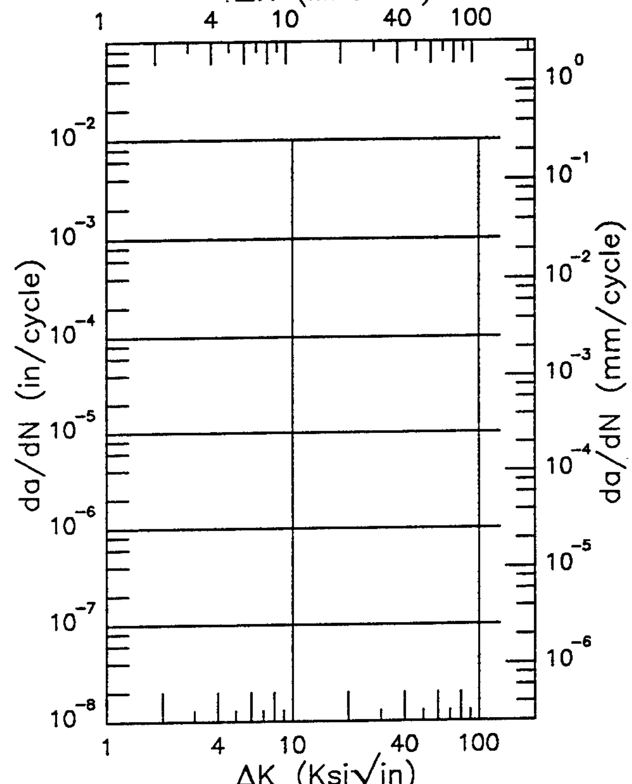
R 7075

Condition/Ht: T7351
Form: 2 in. Plate
Specimen Type: CT
Orientation: L–T
Frequency: 6 Hz
Environment: L.H.A.; RT

Yield Strength: 58 ksi
Ult. Strength: 70 ksi
Specimen Thk: 0.99 in.
Specimen Width: 7.4 in.
Ref: 88579

(1 of 1)



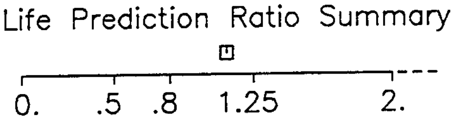


ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
7.15 (min)	0.406
8.	3.69
9.	7.19
10.	7.53
13.	18.1
16.	31.2
19.22 (max)	90.6

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error
19.14

Life Prediction Ratio Summary



RMS % Error

Life Prediction Ratio Summary

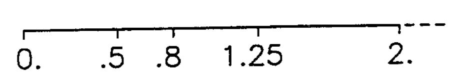
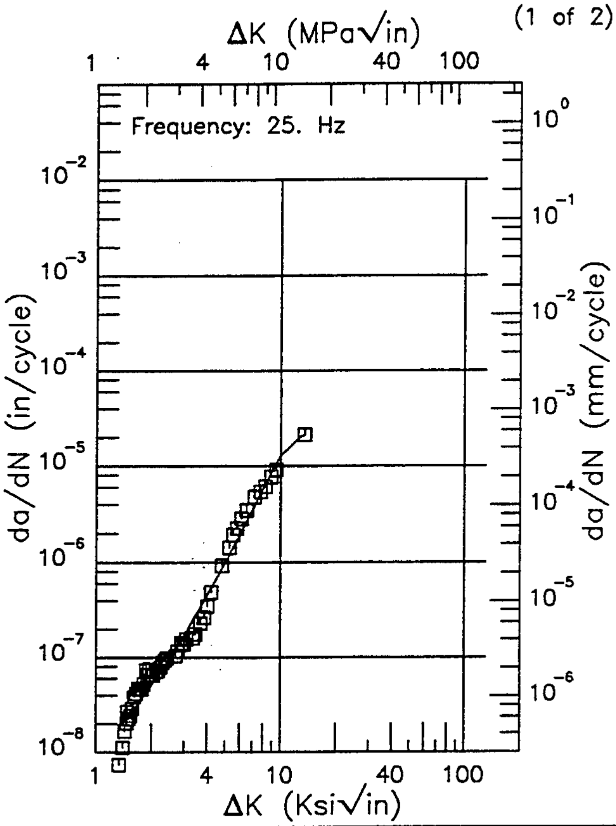
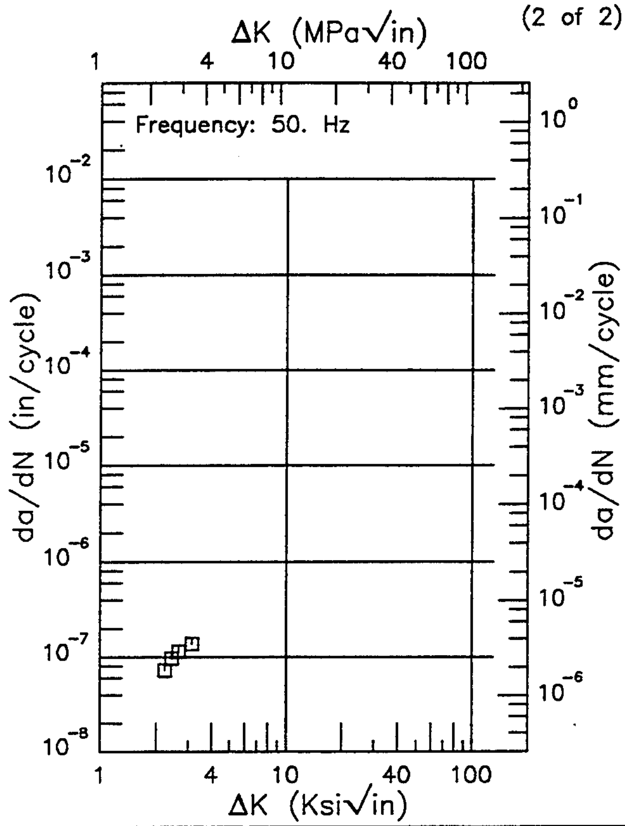


Figure 8.9.3.1.64

Condition/Ht: T7351
Form: 1.38 in. Plate
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.33
Environment: H.H.A.; RT

Yield Strength: 64.8 ksi
Ult. Strength: 74.7 ksi
Specimen Thk: 0.247 in.
Specimen Width: 2.5 in.
Ref: AL005





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.33 (min)	0.0178
1.6	0.0279
2.	0.0507
2.5	0.0970
3.	0.171
3.5	0.283
4.	0.446
5.	0.983
6.	1.93
7.	3.48
8.	5.85
9.	9.08
10.	12.8
13.	20.7
13.43 (max)	20.8

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
28.92	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.9.3.1.65

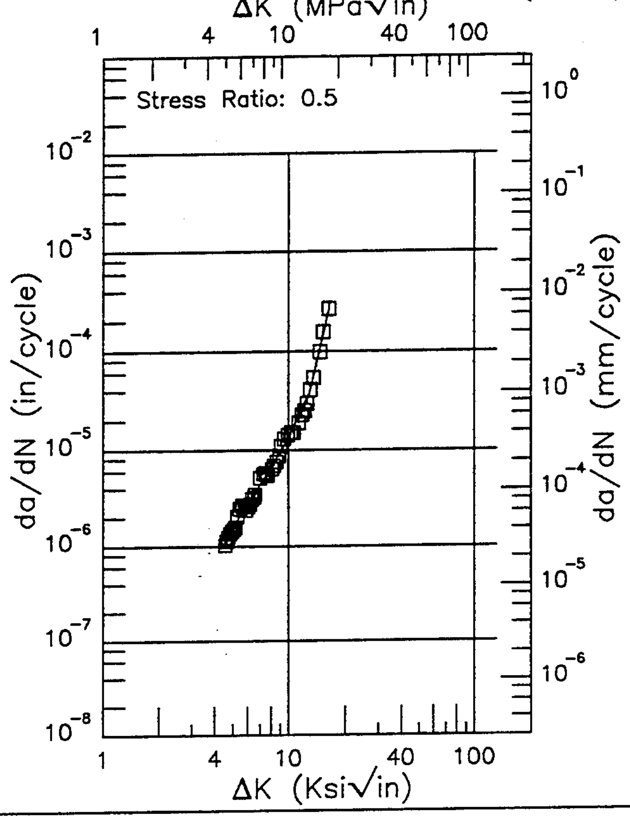
R

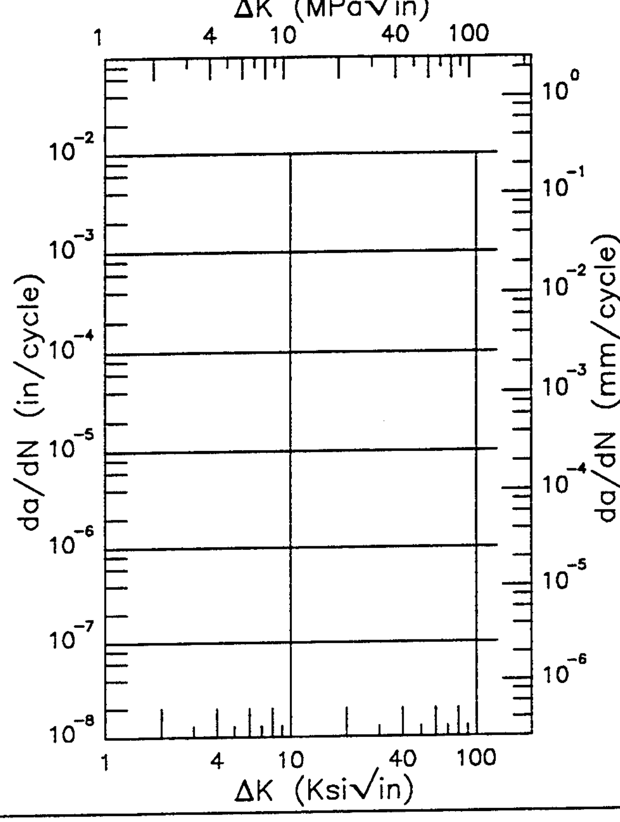
7075

Condition/Ht: T7351
Form: 2 in. Plate
Specimen Type: CT
Orientation: L–T
Frequency: 6 Hz
Environment: L.H.A.; RT

Yield Strength: 65 ksi
Ult. Strength: 76 ksi
Specimen Thk: 0.81 in.
Specimen Width: 6 in.
Ref: 88579

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
4.52 (min)	1.01
5.	1.56
6.	2.86
7.	4.44
8.	6.64
9.	9.76
10.	13.7
13.	38.4
16.	230.
16.33 (max)	264.

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error	Life Prediction Ratio Summary
9.60	0. .5 .8 1.25 2.

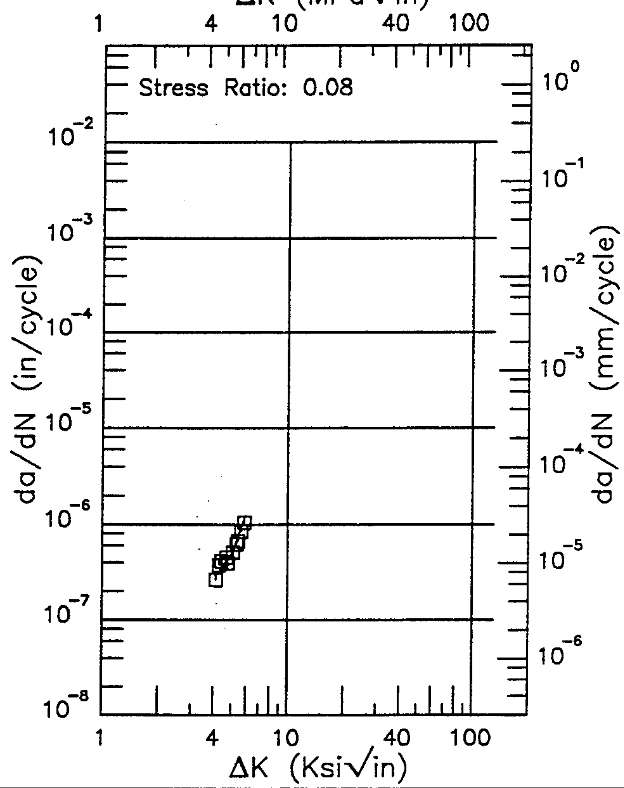
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

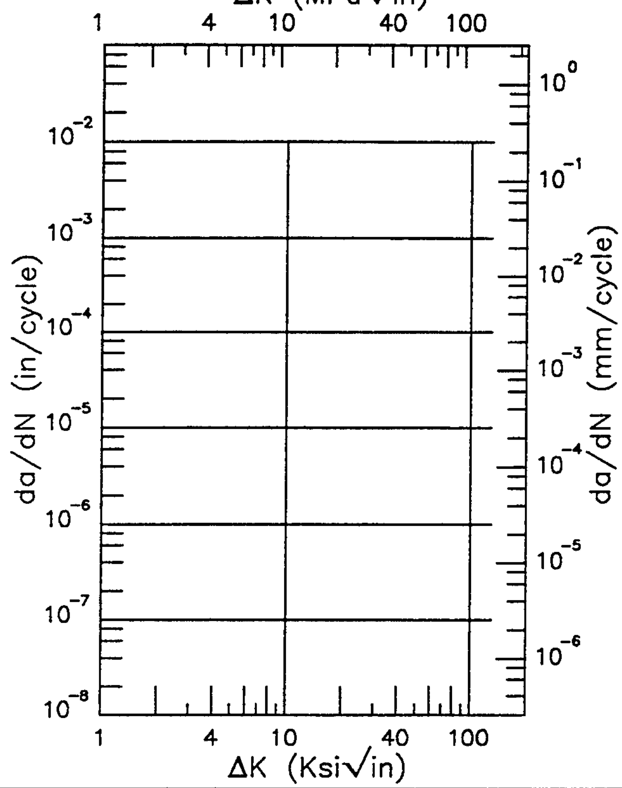
Figure 8.9.3.1.66

Condition/Ht: T7351
Form: 2 in. Plate
Specimen Type: CT
Orientation: T–L
Frequency: 6 Hz
Environment: L.H.A.; RT

Yield Strength: 66 ksi
Ult. Strength: 77 ksi
Specimen Thk: 0.82 in.
Specimen Width: 6 in.
Ref: 88579

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.09 (min)	0.288
5.	0.490
5.84 (max)	1.12

ΔK (Ksi√in) da/dN (10^{-6}in/cycle)

RMS % Error
10.09

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

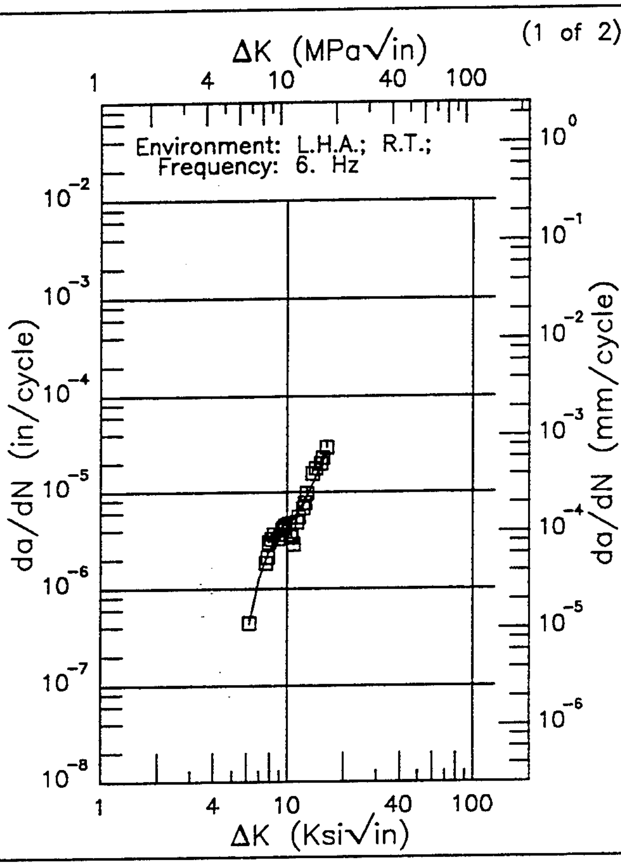
Figure 8.9.3.1.67

EF 7075

Condition/Ht: T7351
Form: 2 in. Plate
Specimen Type: CT
Orientation: T–L
Stress Ratio: 0.08

Yield Strength: 63 – 64 ksi
Ult. Strength: 74 ksi
Specimen Thk: 0.995 – 1 in.
Specimen Width: 7.4 in.
Ref: 85837

(1 of 2)



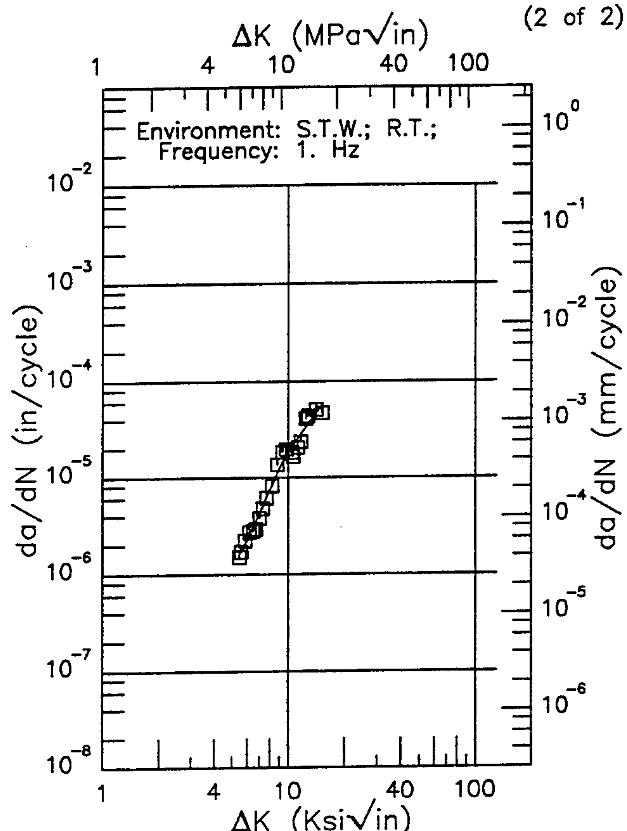
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.21 (min)	0.431
7.	1.27
8.	2.53
9.	3.47
10.	4.09
13.	9.67
16.	24.5
16.12 (max)	24.0

RMS % Error
18.18

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.44 (min)	1.58
6.	2.21
7.	4.16
8.	7.51
9.	12.4
10.	18.5
13.	38.2
15.09 (max)	55.7

RMS % Error
15.38

Life Prediction Ratio Summary

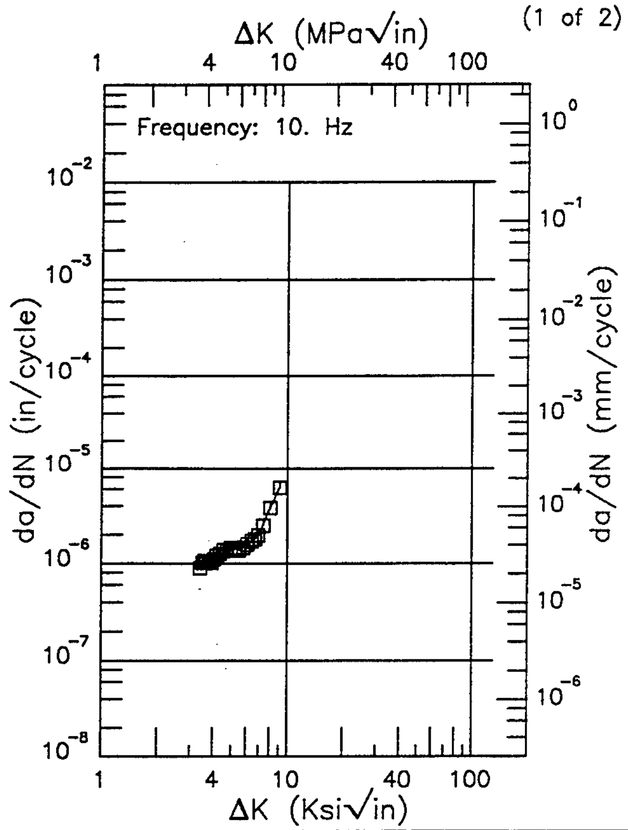
0. .5 .8 1.25 2.

Figure 8.9.3.1.68

Condition/Ht: T7351
Form: 1 in. Plate
Specimen Type: CT
Orientation: S–T
Stress Ratio: 0.5
Environment: NITROGEN GAS; RT

Yield Strength: 70 ksi
Ult. Strength:
Specimen Thk: 0.51 – 0.512 in.
Specimen Width: 1.023 – 1.026 in.
Ref: MR001

(1 of 2)



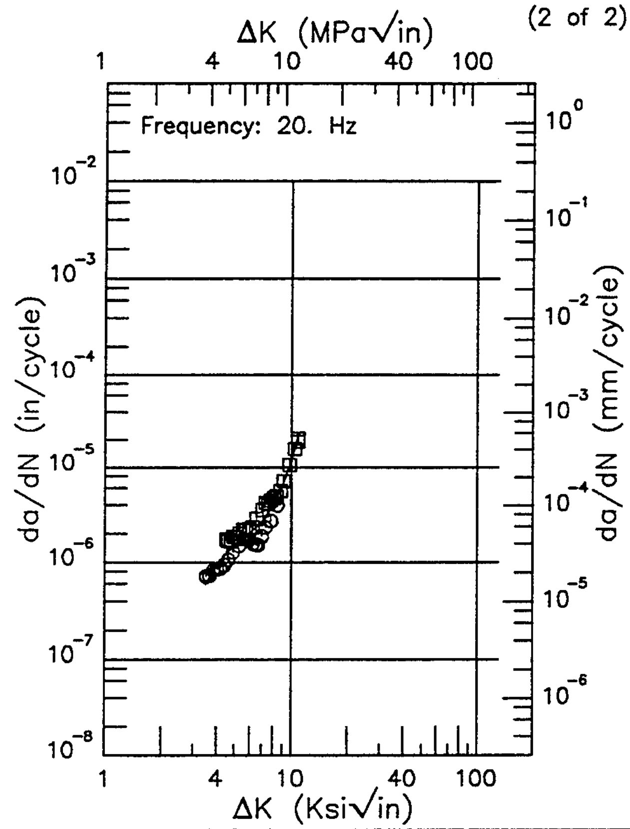
ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
3.39 (min)	0.941
3.5	0.970
4.	1.12
5.	1.40
6.	1.52
7.	2.01
8.	3.73
9.	6.07
9.07 (max)	6.18

RMS % Error: 3.94

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
3.50 (min)	0.588
4.	0.947
5.	1.51
6.	1.98
7.	2.65
8.	3.91
9.	6.47
10.	12.0
10.81 (max)	21.6

RMS % Error: 20.69

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.9.3.1.69

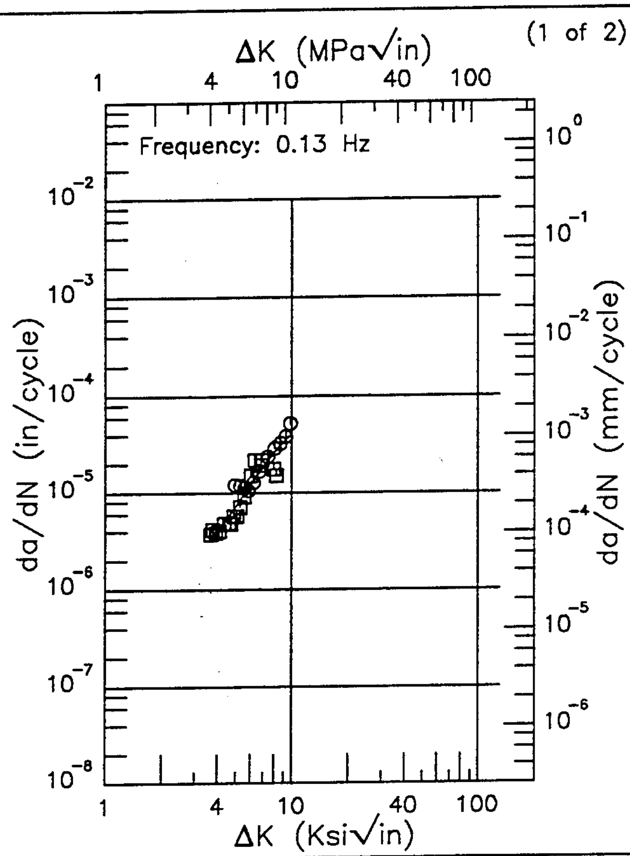
F

7075

Condition/Ht: T7351
Form: 1 in. Plate
Specimen Type: CT
Orientation: S–T
Stress Ratio: 0.5
Environment: 3.5% NACL; RT

Yield Strength: 60 ksi
Ult. Strength:
Specimen Thk: 0.509 – 0.511 in.
Specimen Width: 1 – 1.027 in.
Ref: MR001

(1 of 2)



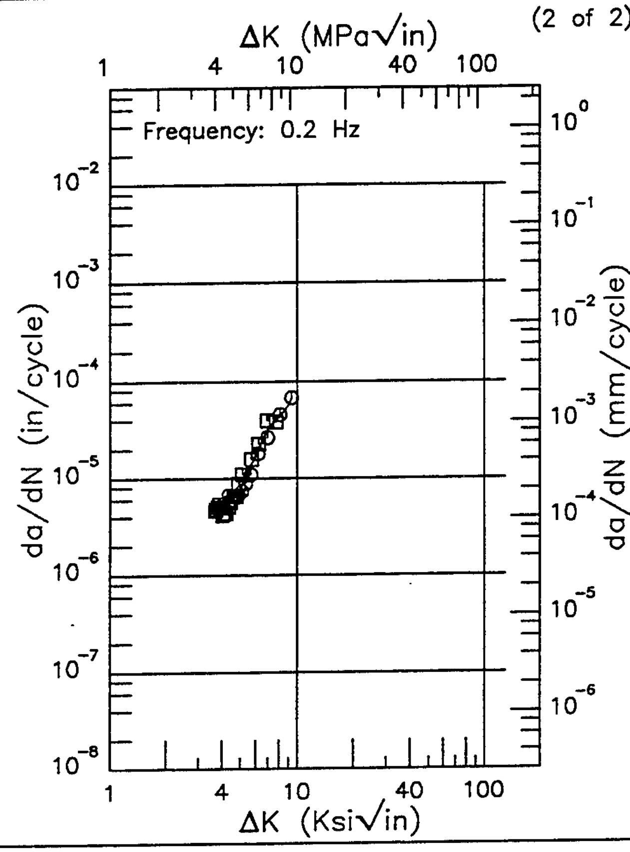
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.66 (min)	3.28
4.	4.01
5.	7.22
6.	12.1
7.	18.6
8.	26.2
9.	33.9
9.75 (max)	39.4

RMS % Error: 25.36

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.68 (min)	4.81
4.	4.77
5.	7.85
6.	17.2
7.	32.9
8.	43.3
9.	56.8
9.32 (max)	67.6

RMS % Error: 12.72

Life Prediction Ratio Summary

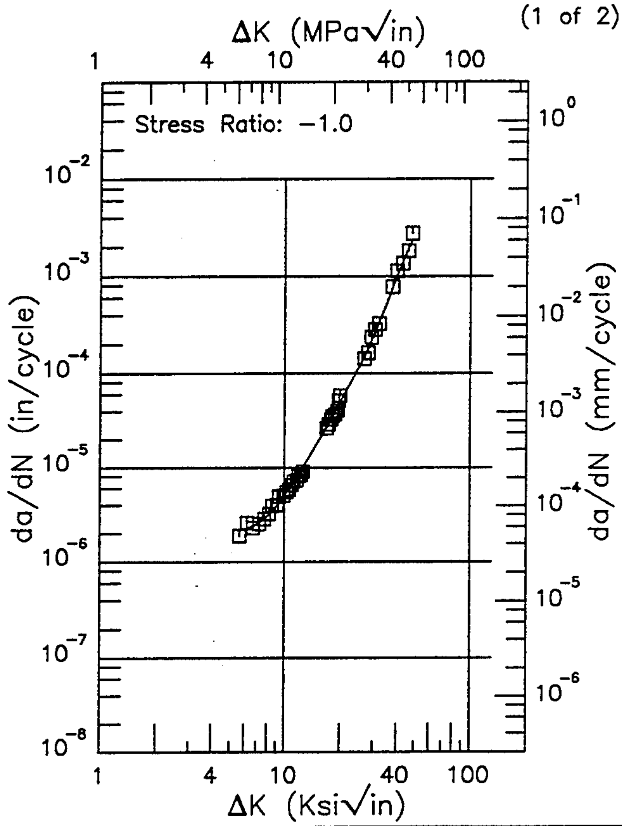
0. .5 .8 1.25 2.

Figure 8.9.3.1.70

Condition/Ht: T7351
Form: 1 in. Plate
Specimen Type: CCP (max load specified)
Orientation: L–T
Frequency: 10 Hz
Environment: LAB AIR; RT

Yield Strength: 67.3 ksi
Ult. Strength: 75.5 ksi
Specimen Thk: 0.25 in.
Specimen Width: 4 in.
Ref: MA006

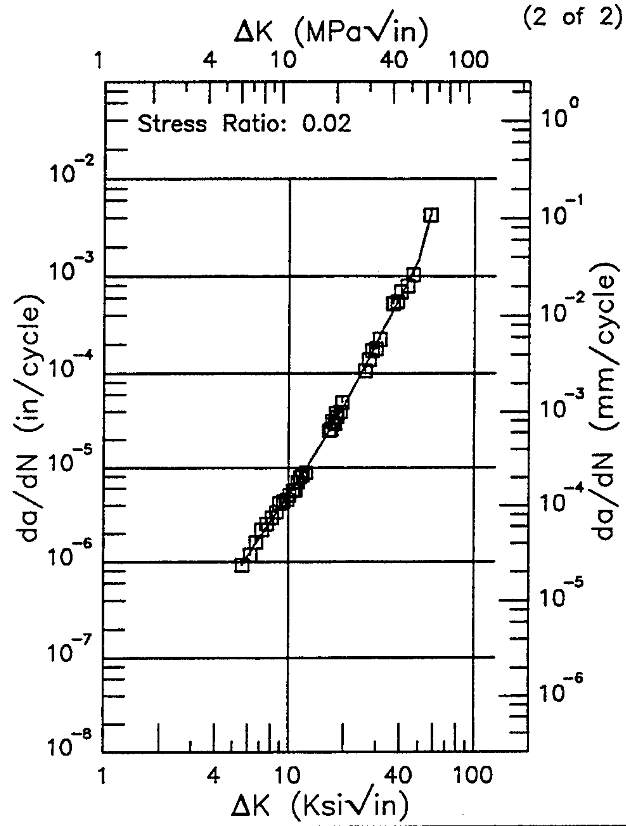
(1 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.66 (min)	2.18
6.	2.20
7.	2.47
8.	3.02
9.	3.85
10.	4.99
13.	11.0
16.	22.5
20.	50.4
25.	115.
30.	242.
35.	507.
40.	1025.
47.96 (max)	2319.

RMS % Error	Life Prediction Ratio Summary
8.07	0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.60 (min)	0.931
6.	1.15
7.	1.81
8.	2.66
9.	3.75
10.	5.10
13.	11.1
16.	21.4
20.	45.2
25.	102.
30.	207.
35.	372.
40.	600.
50.	1451.
57.77 (max)	4180.

RMS % Error	Life Prediction Ratio Summary
8.29	0. .5 .8 1.25 2.

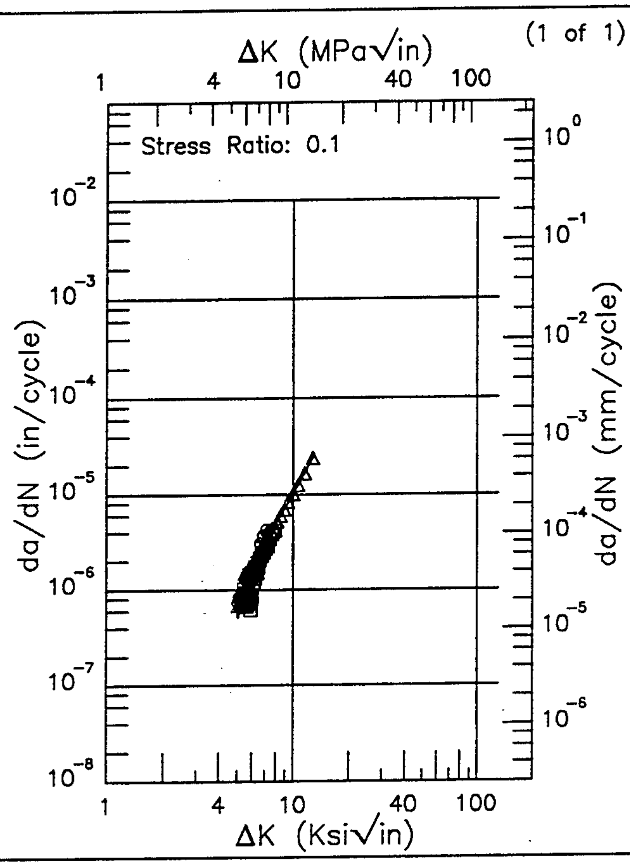
Figure 8.9.3.1.71

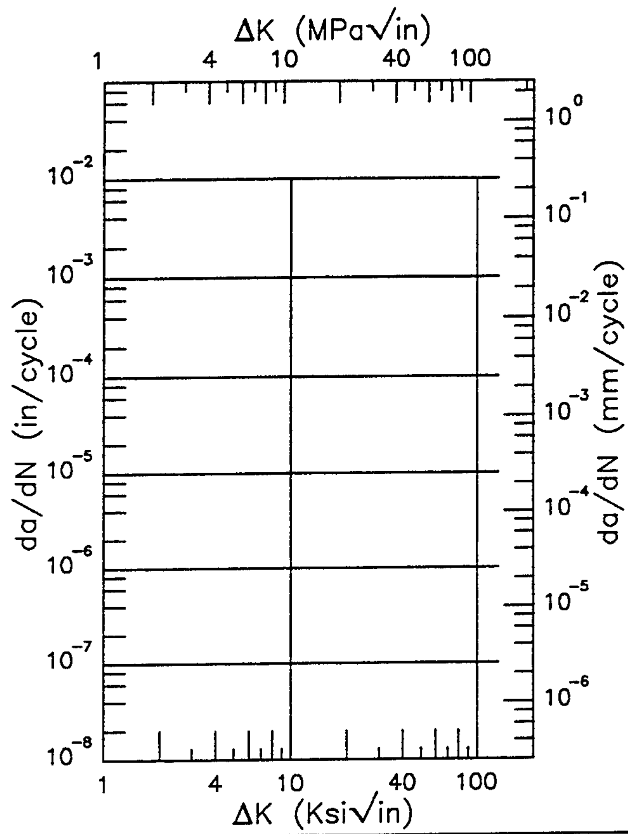
R — 7075

Condition/Ht: T7351
Form: Plate
Specimen Type: CCP (max stress specified)
Orientation: L–T
Frequency: 12 – 30 Hz
Environment: H.H.A.; RT

Yield Strength: 64.5 ksi
Ult. Strength:
Specimen Thk: 0.475 in.
Specimen Width: 6 in.
Ref: BL002

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
5.02 (min)	0.633
6.	1.34
7.	2.83
8.	4.92
9.	7.25
10.	10.1
12.66 (max)	23.6

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

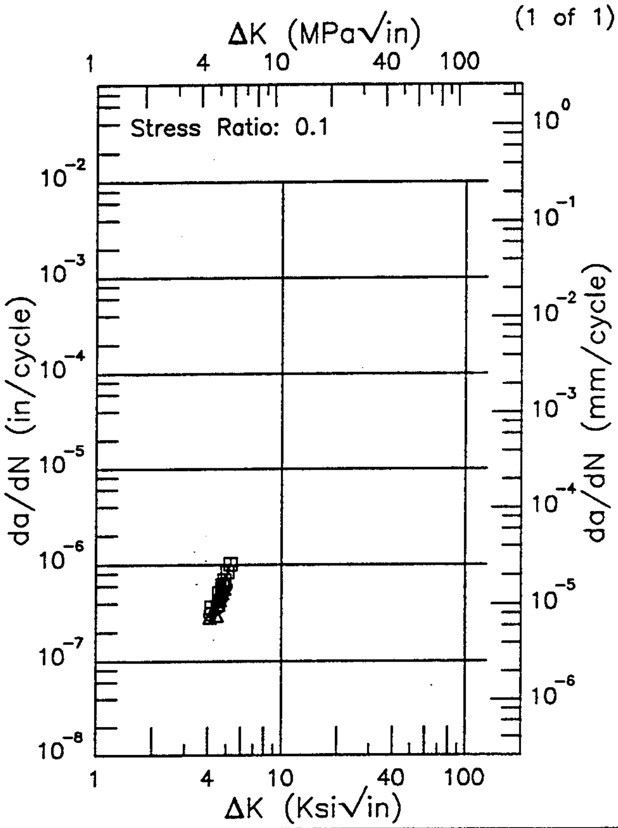
RMS % Error	Life Prediction Ratio Summary	RMS % Error	Life Prediction Ratio Summary
21.06	⊡ ⦶+Δ 0. .5 .8 1.25 2.		0. .5 .8 1.25 2.

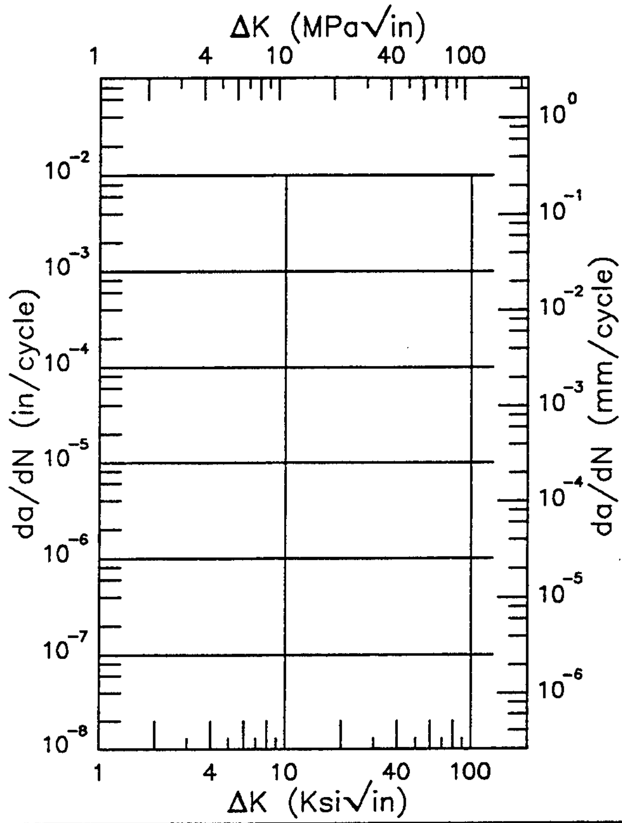
Figure 8.9.3.1.72

Condition/Ht: T7351
Form: Plate
Specimen Type: CCP (max stress specified)
Orientation: L–T
Frequency: 12 – 30 Hz
Environment: H.H.A.; RT

Yield Strength: 60.5 ksi
Ult. Strength:
Specimen Thk: 0.5 in.
Specimen Width: 6 in.
Ref: BL002

(1 of 1)



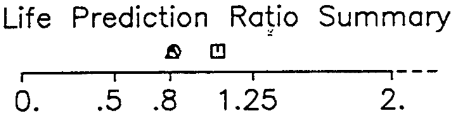


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.07 (min)	0.283
5.	0.725
5.26 (max)	1.01

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
12.56

Life Prediction Ratio Summary



RMS % Error

Life Prediction Ratio Summary

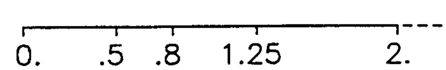


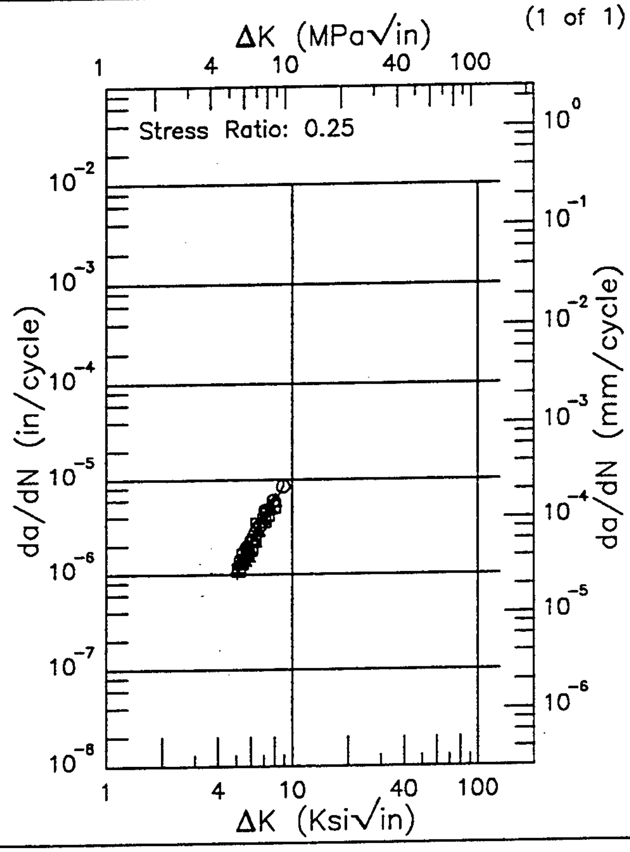
Figure 8.9.3.1.73

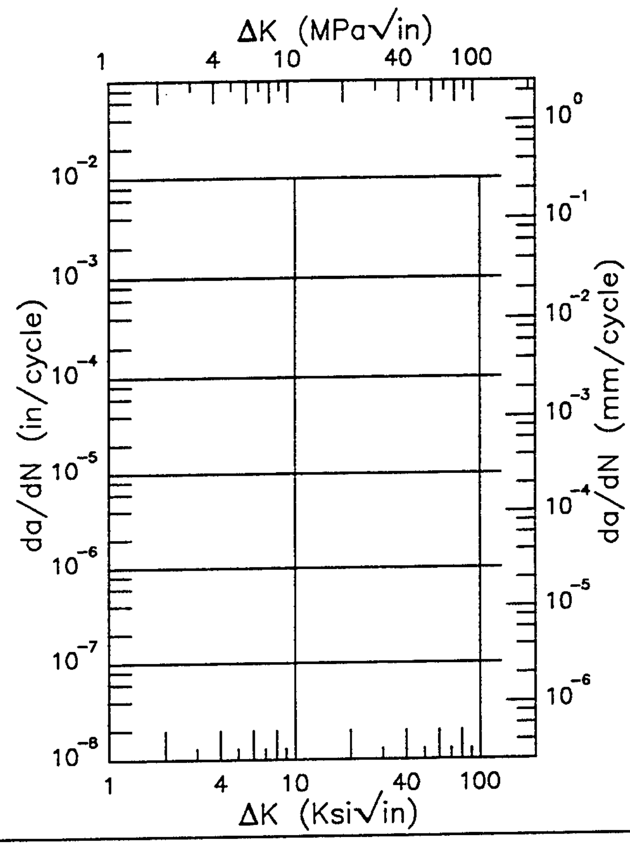
R 7075

Condition/Ht: T7351
Form: Plate
Specimen Type: CCP (max stress specified)
Orientation: L–T
Frequency: 19 – 30 Hz
Environment: H.H.A.; RT

Yield Strength: 64.5 ksi
Ult. Strength:
Specimen Thk: 0.475 in.
Specimen Width: 4 in.
Ref: BL002

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.04 (min)	1.11
6.	2.08
7.	3.91
8.	5.94
8.87 (max)	8.43

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
6.97	0. .5 .8 1.25 2.

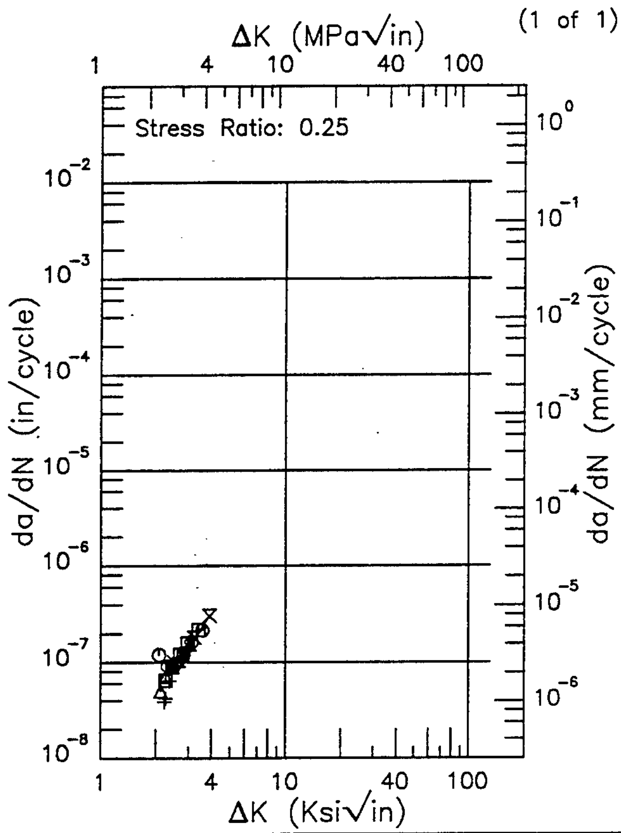
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

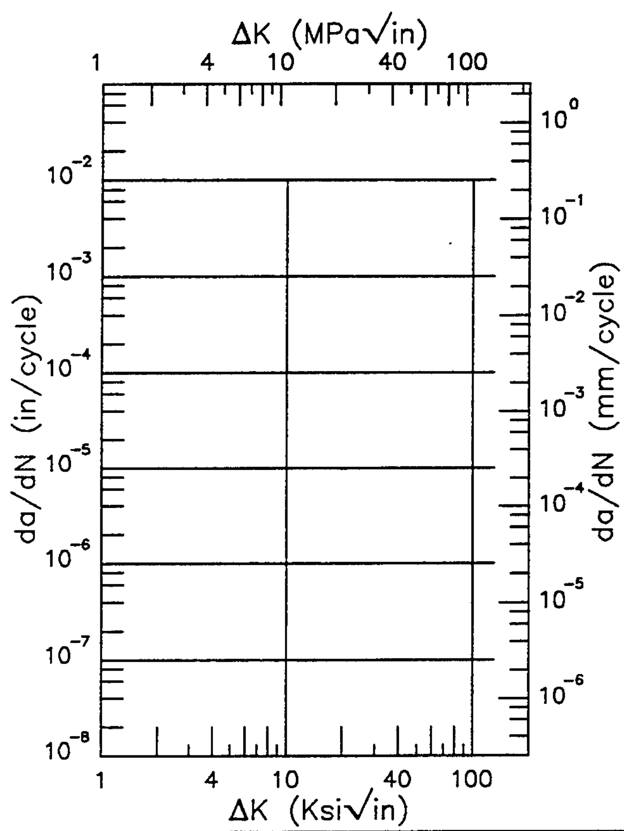
Figure 8.9.3.1.74

Condition/Ht: T7351
Form: Plate
Specimen Type: CCP (max stress specified)
Orientation: L–T
Frequency: 19 – 30 Hz
Environment: H.H.A.; RT

Yield Strength: 60.5 ksi
Ult. Strength:
Specimen Thk: 0.5 in.
Specimen Width: 6 in.
Ref: BL002

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.07 (min)	0.0673
2.5	0.0927
3.	0.137
3.5	0.217
3.87 (max)	0.302

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
21.88	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.9.3.1.75

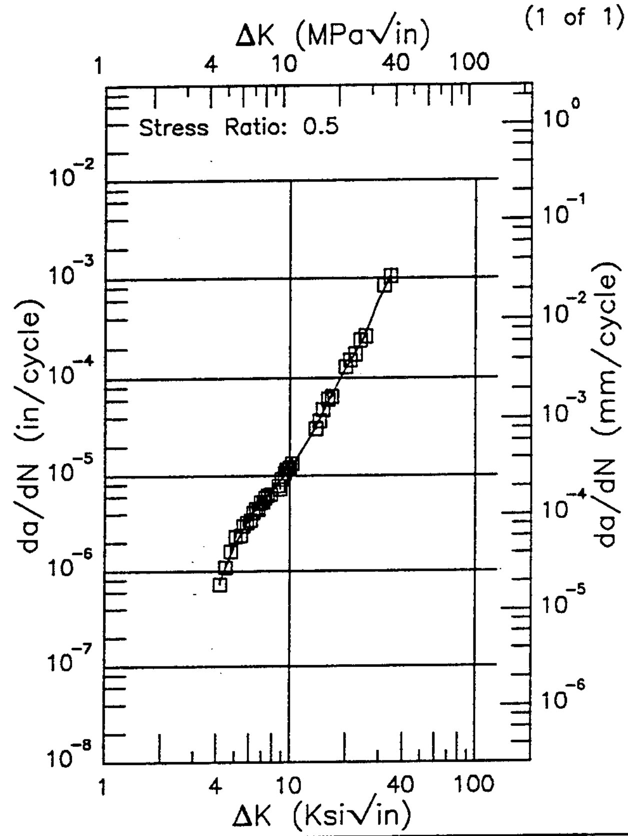
7075

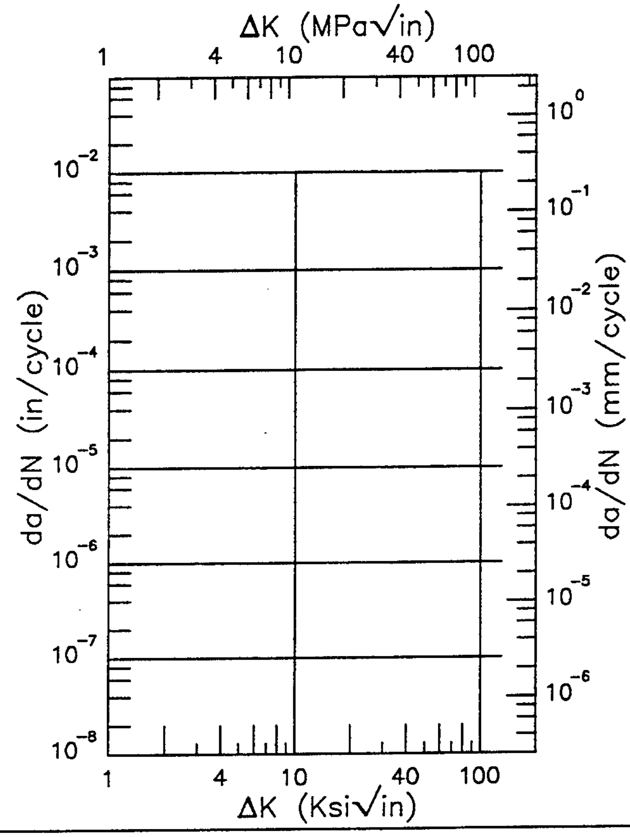
R

Condition/Ht: T7351
Form: 1 in. Plate
Specimen Type: CCP (max load specified)
Orientation: L–T
Frequency: 10 Hz
Environment: LAB AIR; RT

Yield Strength: 67.3 ksi
Ult. Strength: 75.5 ksi
Specimen Thk: 0.25 in.
Specimen Width: 4 in.
Ref: MA006

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.17 (min)	0.780
5.	1.87
6.	3.50
7.	5.23
8.	7.04
9.	9.10
10.	11.7
13.	25.9
16.	57.4
20.	126.
25.	258.
30.	625.
34.36 (max)	1049.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
6.74	0. .5 .8 1.25 2.

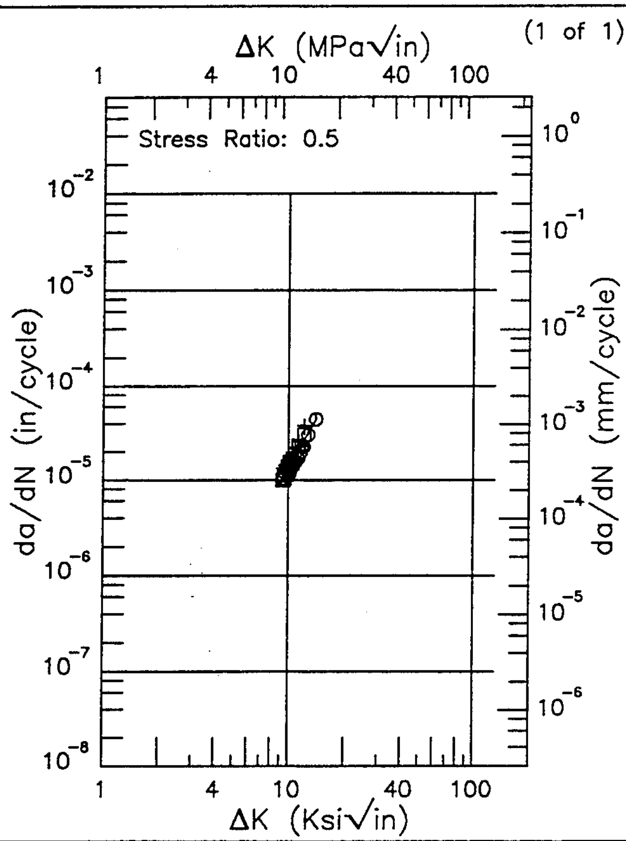
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

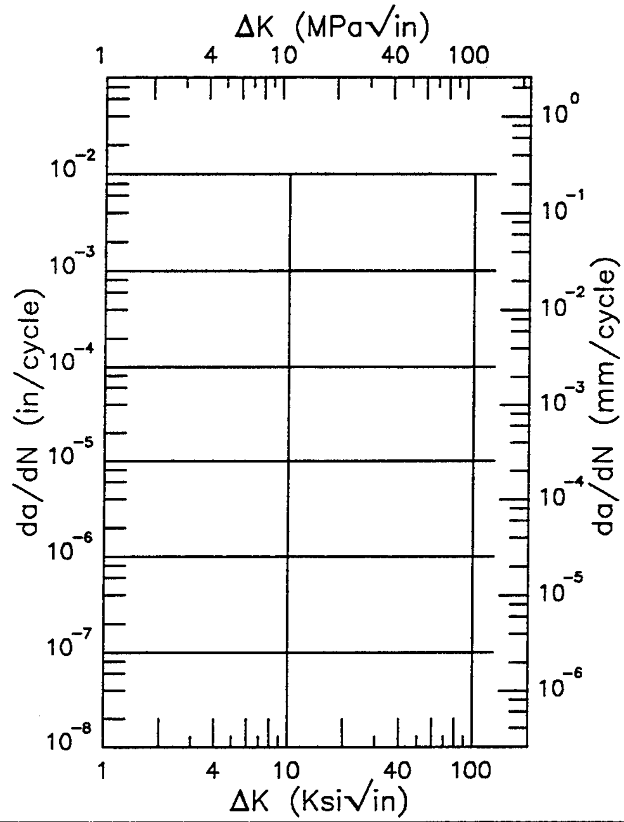
Figure 8.9.3.1.76

Condition/Ht: T7351
Form: Plate
Specimen Type: CCP (max stress specified)
Orientation: L–T
Frequency: 12 – 30 Hz
Environment: H.H.A.; RT

Yield Strength: 64.5 ksi
Ult. Strength:
Specimen Thk: 0.475 in.
Specimen Width: 4 in.
Ref: BL002

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
9.23 (min)	10.6
10.	13.3
13.	33.9
13.99 (max)	43.8

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
15.26	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

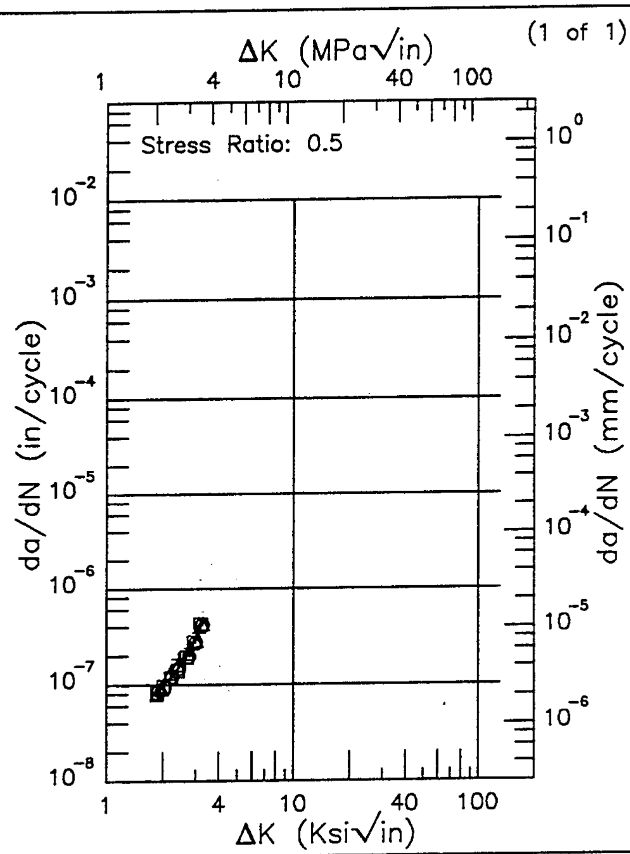
Figure 8.9.3.1.77

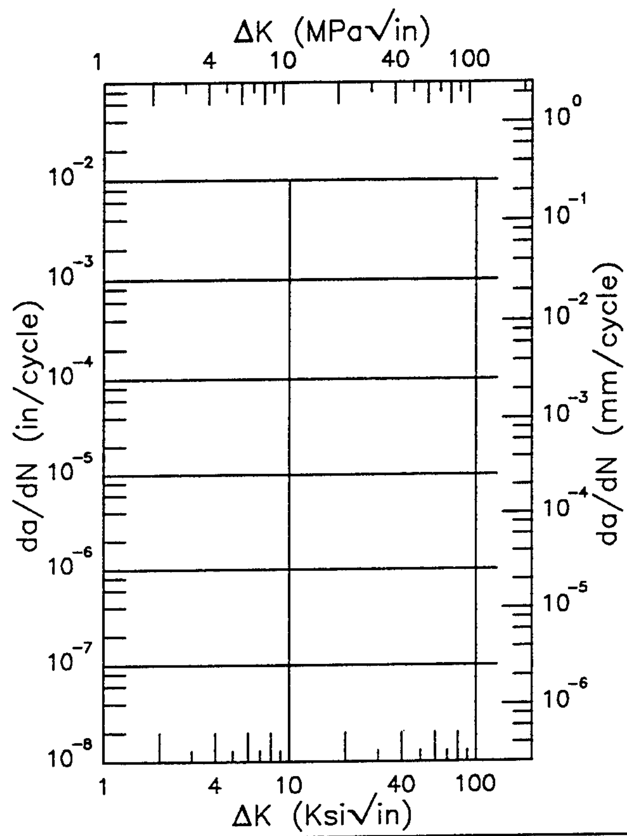
R 7075

Condition/Ht: T7351
Form: Plate
Specimen Type: CCP (max stress specified)
Orientation: L-T
Frequency: 12 – 30 Hz
Environment: H.H.A.; RT

Yield Strength: 60.5 ksi
Ult. Strength:
Specimen Thk: 0.506 in.
Specimen Width: 6 in.
Ref: BL002

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.84 (min)	0.0796
2.	0.0951
2.5	0.166
3.	0.288
3.27 (max)	0.456

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

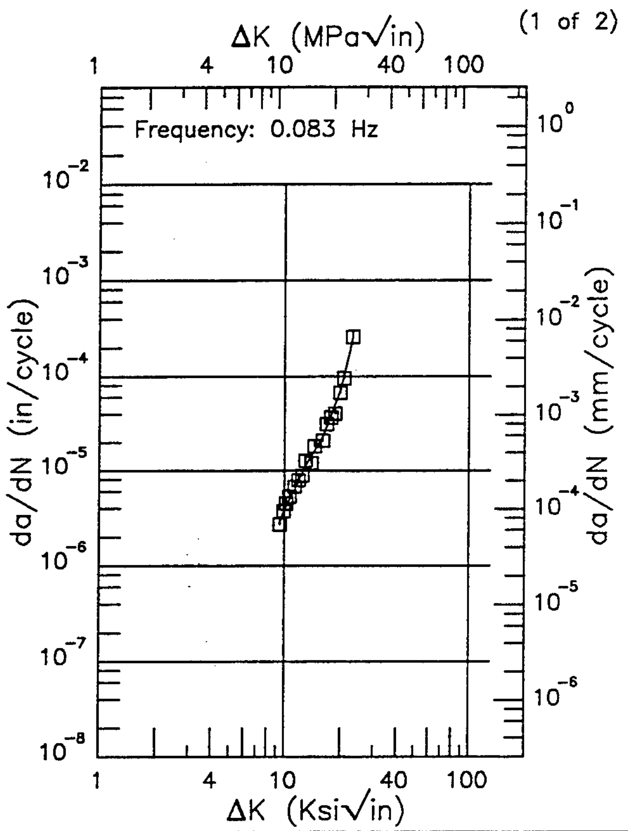
RMS % Error	Life Prediction Ratio Summary
7.02	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.9.3.1.78

Condition/Ht: T7351
Form: 1.25 – 4 in. Plate
Specimen Type: WOL
Orientation: L–T
Stress Ratio: 0.02
Environment: LAB AIR; RT

Yield Strength: 53 – 57.8 ksi
Ult. Strength: 65 – 69.3 ksi
Specimen Thk: 1.25 in.
Specimen Width: 5 in.
Ref: MD002;MA005

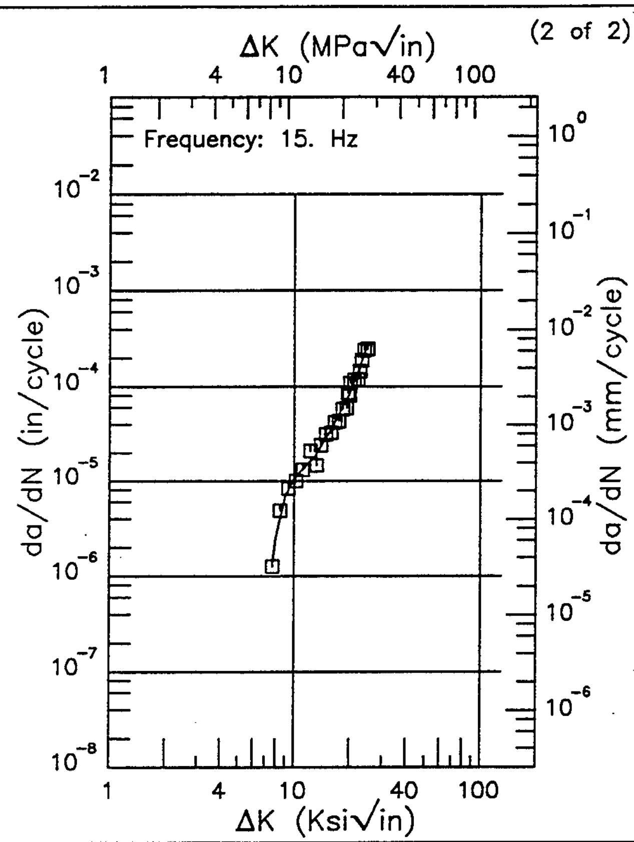


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
9.41 (min)	2.78
10.	3.92
13.	11.3
16.	23.1
20.	73.2
23.10 (max)	260.

RMS % Error: 8.55

Life Prediction Ratio Summary

0. .5 .8 1.25 2.



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
7.65 (min)	1.40
8.	2.52
9.	6.98
10.	10.9
13.	18.3
16.	35.2
20.	84.3
24.78 (max)	266.

RMS % Error: 13.64

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.9.3.1.79

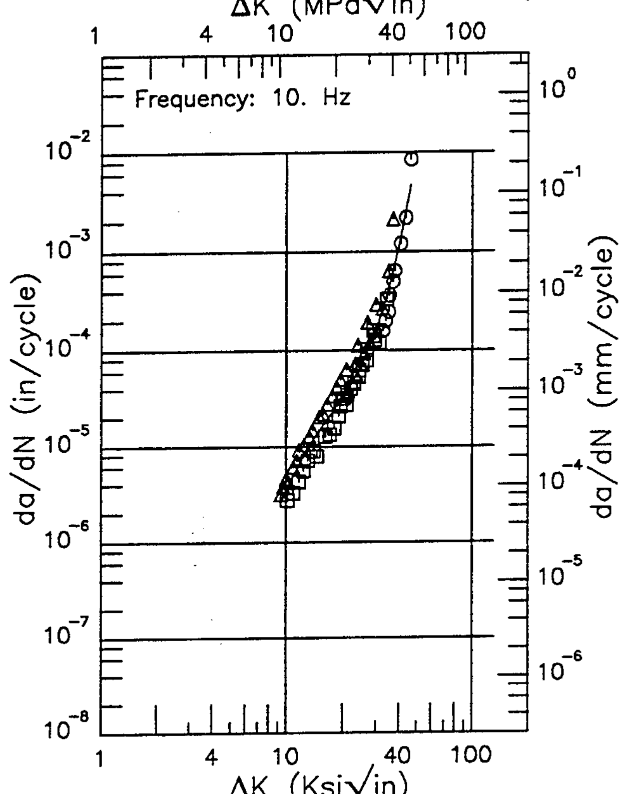
7075

F

Condition/Ht: T7351
Form: 1.25 – 4 in. Plate
Specimen Type: WOL
Orientation: L–T
Stress Ratio: 0.02
Environment: LAB AIR; RT

Yield Strength: 53 – 58 ksi
Ult. Strength: 65 – 69.3 ksi
Specimen Thk: 1.25 in.
Specimen Width: 5 in.
Ref: MD002;MA005

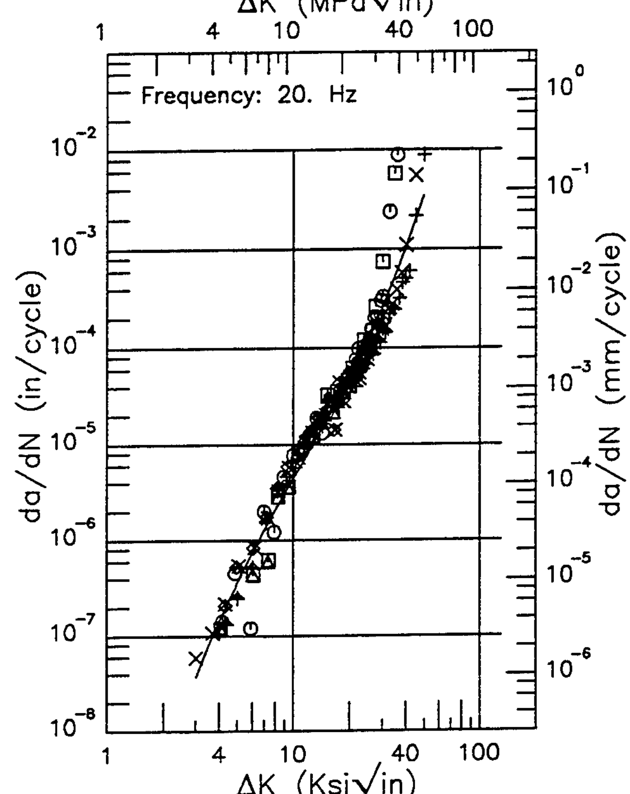
(1 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
9.34 (min)	2.53
10.	3.54
13.	9.62
16.	17.5
20.	32.5
25.	69.0
30.	159.
35.	401.
40.	1107.
46.50 (max)	4604.

RMS % Error	Life Prediction Ratio Summary
43.71	0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.01 (min)	0.0376
3.5	0.0783
4.	0.143
5.	0.364
6.	0.734
7.	1.28
8.	2.05
9.	3.07
10.	4.38
13.	10.6
16.	21.8
20.	49.1
25.	118.
30.	259.
35.	531.
40.	1038.
49.70 (max)	3441.

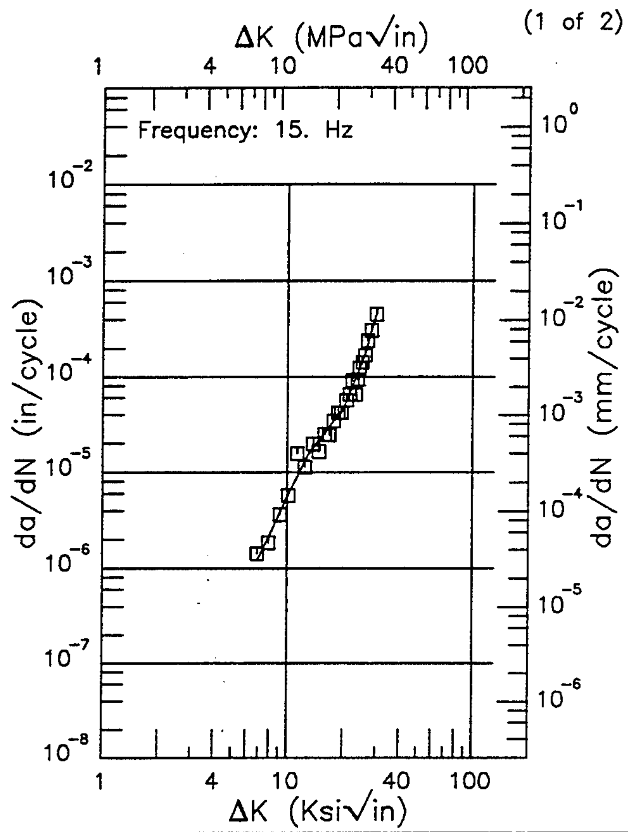
RMS % Error	Life Prediction Ratio Summary
>100.0	0. .5 .8 1.25 2.

Figure 8.9.3.1.80

Condition/Ht: T7351
Form: 1.25 in. Plate
Specimen Type: WOL
Orientation: L—T
Stress Ratio: 0.02
Environment: JP4; RT

Yield Strength: 54.5 — 57.8 ksi
Ult. Strength: 68 — 69.3 ksi
Specimen Thk: 1.25 in.
Specimen Width: 5 in.
Ref: MA005;MD002

(1 of 2)



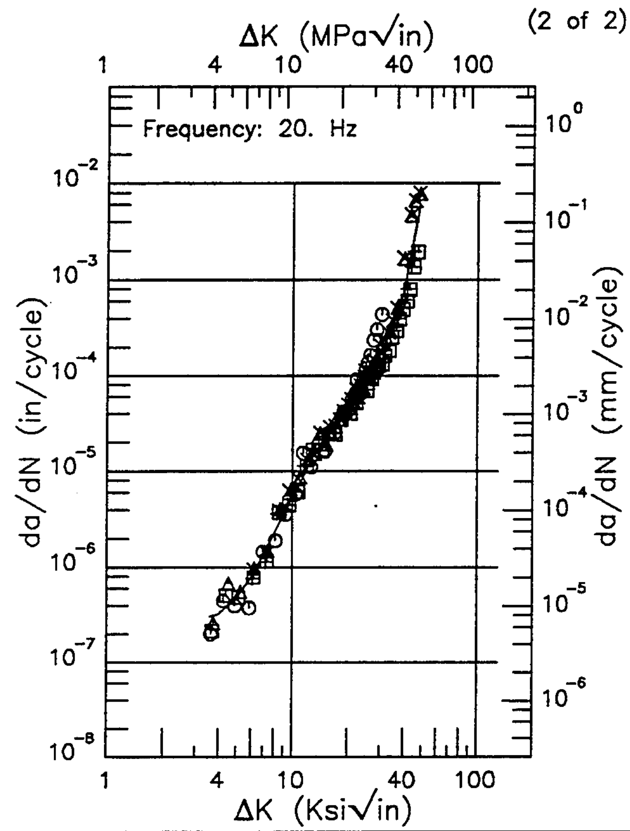
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.86 (min)	1.21
7.	1.30
8.	2.19
9.	3.60
10.	5.64
13.	15.4
16.	26.4
20.	45.5
25.	142.
29.74 (max)	443.

RMS % Error: 18.78

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.61 (min)	0.305
4.	0.323
5.	0.473
6.	0.790
7.	1.35
8.	2.24
9.	3.57
10.	5.42
13.	14.5
16.	27.3
20.	47.5
25.	86.4
30.	165.
35.	342.
40.	769.
48.20 (max)	5749.

RMS % Error: 36.39

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

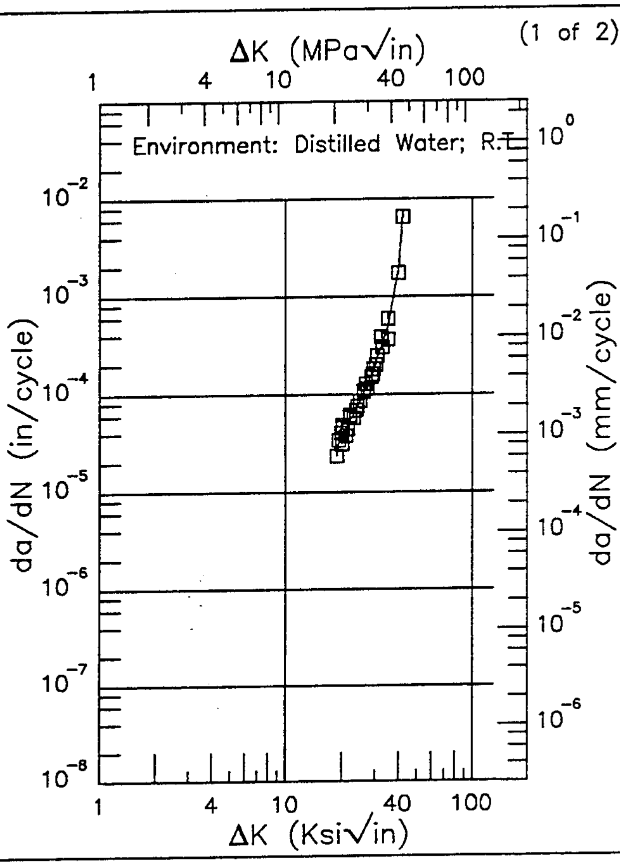
Figure 8.9.3.1.81

E | 7075

Condition/Ht: T7351
Form: 4 in. Plate
Specimen Type: WOL
Orientation: L–T
Stress Ratio: 0.02
Frequency: 1 Hz

Yield Strength: 53 ksi
Ult. Strength: 65 ksi
Specimen Thk: 1.25 in.
Specimen Width: 5 in.
Ref: MD002

(1 of 2)



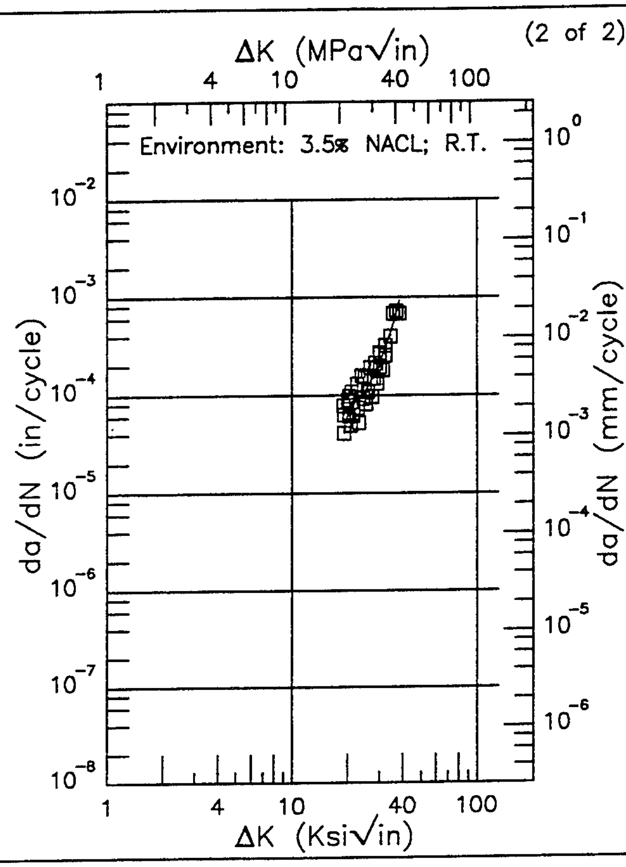
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
18.70 (min)	27.9
20.	37.7
25.	84.1
30.	199.
35.	479.
40.	1882.
42.10 (max)	6424.

RMS % Error 12.47

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
19.00 (min)	65.2
20.	70.3
25.	109.
30.	204.
35.	477.
38.30 (max)	928.

RMS % Error 28.66

Life Prediction Ratio Summary

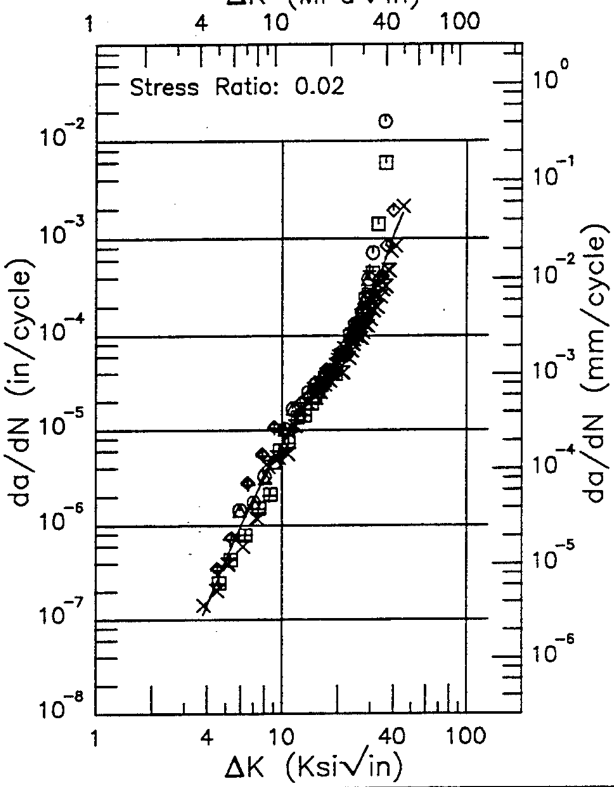
0. .5 .8 1.25 2.

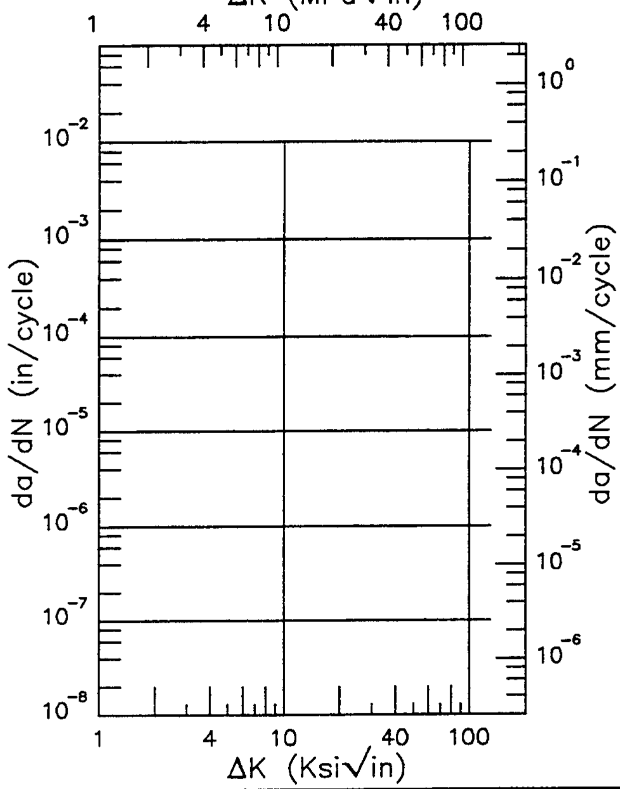
Figure 8.9.3.1.82

Condition/Ht: T7351
Form: 1.25 in. Plate
Specimen Type: WOL
Orientation: L-T
Frequency: 0.1 – 20 Hz
Environment: S.S.W.; RT

Yield Strength: 54.5 – 58 ksi
Ult. Strength: 68 – 69.3 ksi
Specimen Thk: 1.25 in.
Specimen Width: 5 in.
Ref: MD002;MA005

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.82 (min)	0.114
4.	0.145
5.	0.435
6.	0.986
7.	1.87
8.	3.13
9.	4.81
10.	6.94
13.	16.1
16.	29.7
20.	54.7
25.	108.
30.	225.
35.	509.
40.	1058.
45.30 (max)	1810.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
>100.0	0. .5 .8 1.25 2.

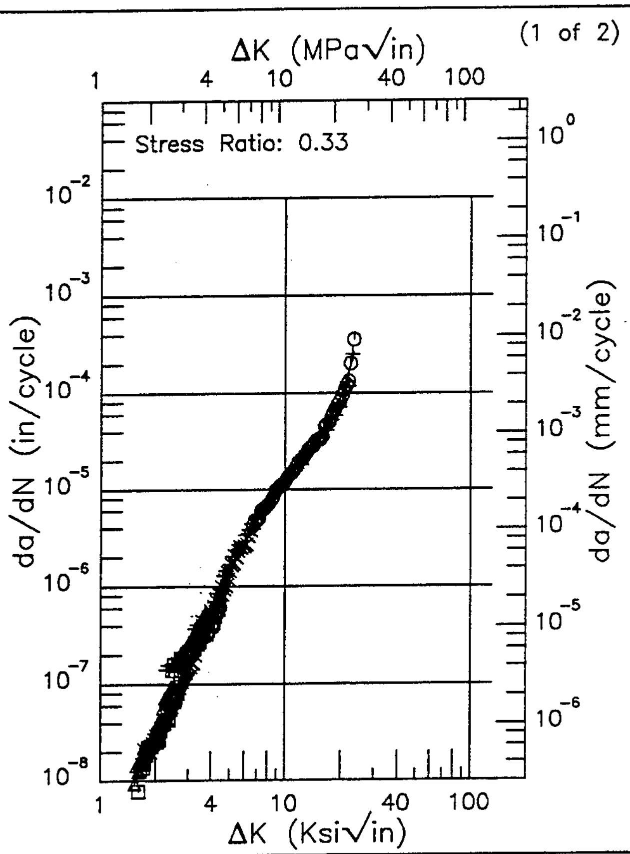
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

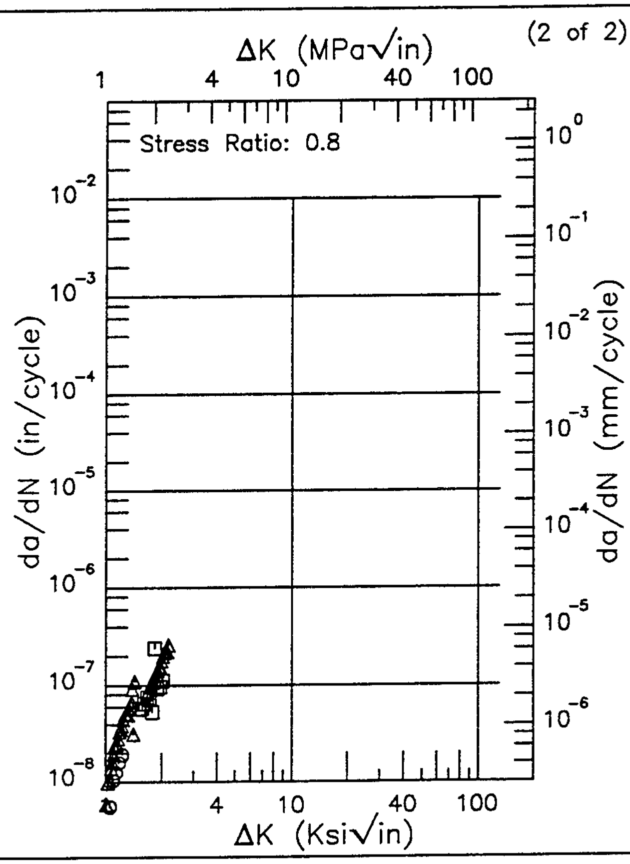
Figure 8.9.3.1.83

R — 7075

Condition/Ht: T7351
Form: 1 in. Plate
Specimen Type: WOL
Orientation: L-T
Frequency: 25 Hz
Environment: H.H.A.; RT

Yield Strength: 62 ksi
Ult. Strength: 73 ksi
Specimen Thk: 0.25 – 0.251 in.
Specimen Width: 2.55 – 2.554 in.
Ref: NC002;NC003;AL005





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.54 (min)	0.0101
1.6	0.0119
2.	0.0317
2.5	0.0836
3.	0.182
3.5	0.345
4.	0.592
5.	1.40
6.	2.70
7.	4.53
8.	6.87
9.	9.65
10.	12.8
13.	23.2
16.	37.1
20.	90.9
23.32 (max)	268.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.01 (min)	0.00826
1.3	0.0559
1.6	0.0668
2.	0.162
2.18 (max)	0.270

RMS % Error	Life Prediction Ratio Summary
27.23	0. .5 .8 1.25 2.

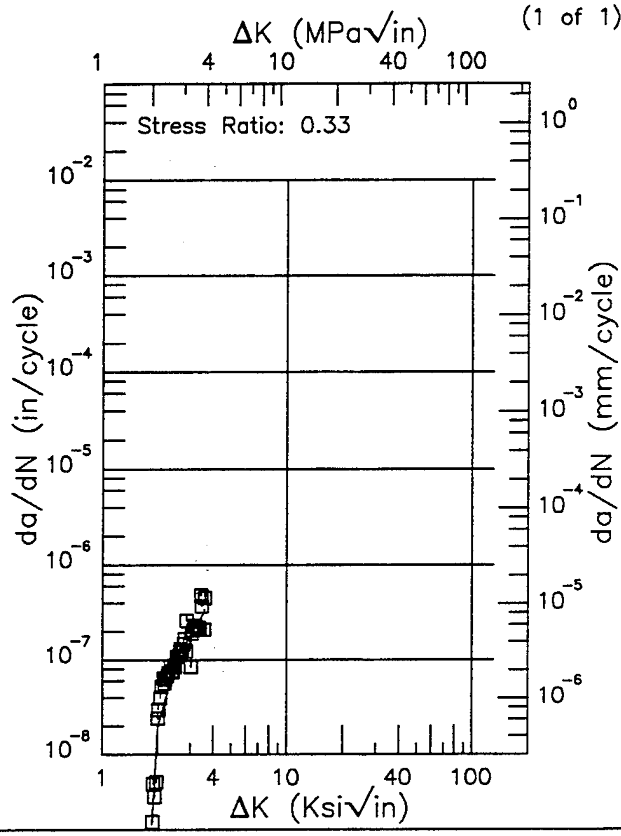
RMS % Error	Life Prediction Ratio Summary
28.74	0. .5 .8 1.25 2.

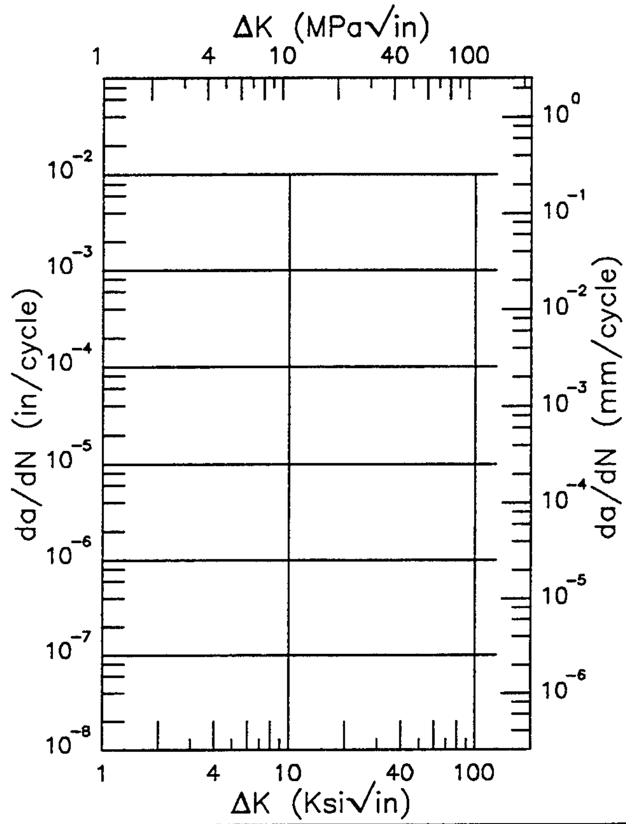
Figure 8.9.3.1.84

Condition/Ht: T7351
Form: 1 in. Plate
Specimen Type: WOL
Orientation: L–T
Frequency: 200 Hz
Environment: H.H.A.; RT

Yield Strength:
Ult. Strength:
Specimen Thk: 0.251 in.
Specimen Width: 2.551 in.
Ref: AL005

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.86 (min)	0.00184
2.	0.0198
2.5	0.0970
3.	0.178
3.5	0.296
3.58 (max)	0.340

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
43.22	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

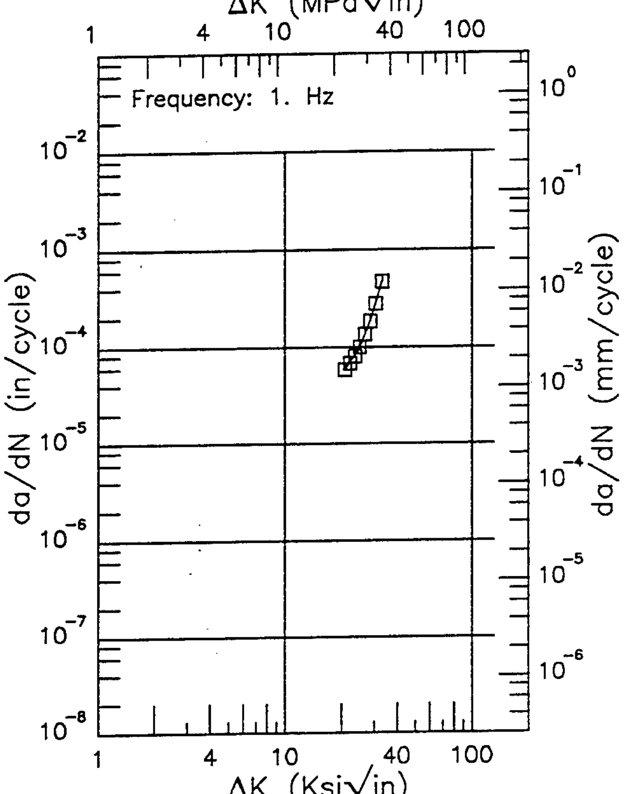
Figure 8.9.3.1.85

F 7075

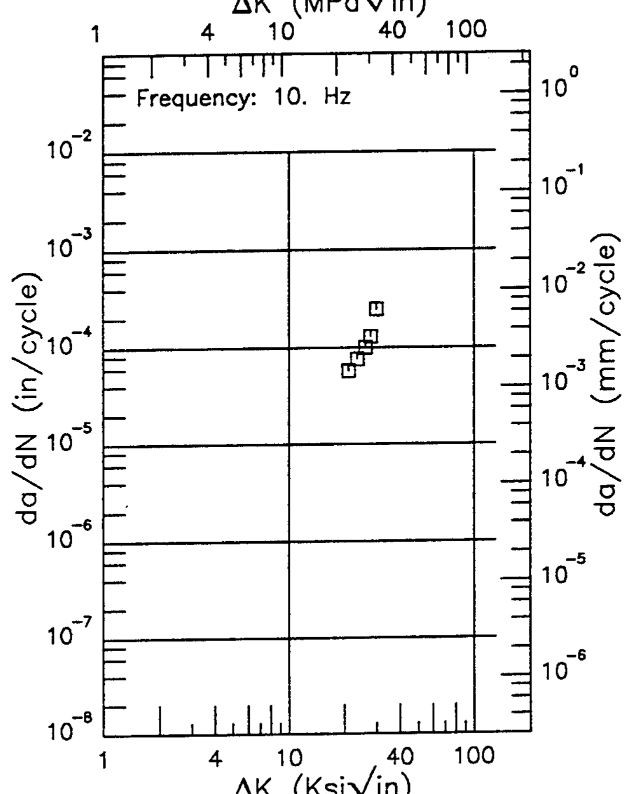
Condition/Ht: T7351 53.2
Form: 4 in. Plate
Specimen Type: CT
Orientation: L-T
Stress Ratio: 0.02
Environment: 3.5% NACL; RT

Yield Strength: 53.2 ksi
Ult. Strength: 65.1 ksi
Specimen Thk: 1.25 in.
Specimen Width: 5 in.
Ref: 84363

(1 of 2)



(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
20.82 (min)	57.5
25.	98.5
30.	249.
32.93 (max)	471.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error 2.20

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

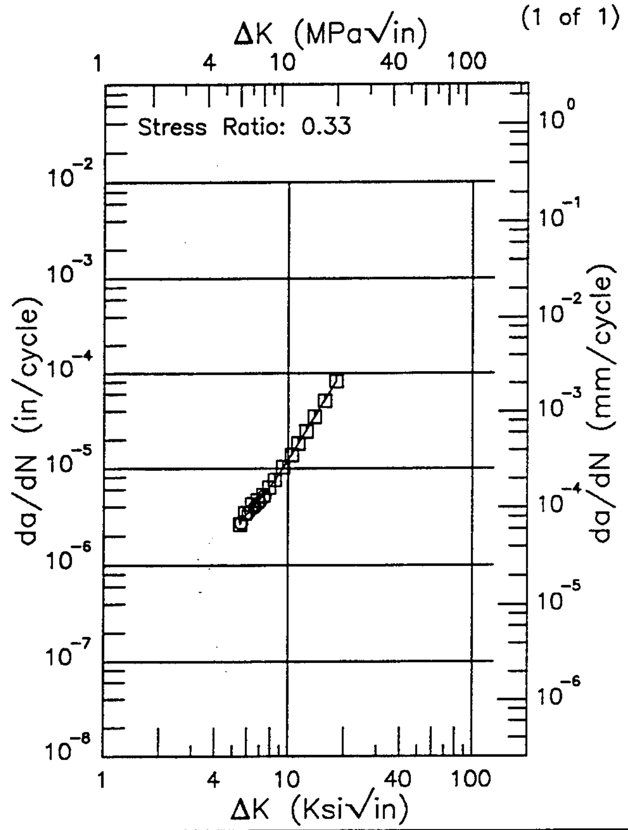
0. .5 .8 1.25 2.

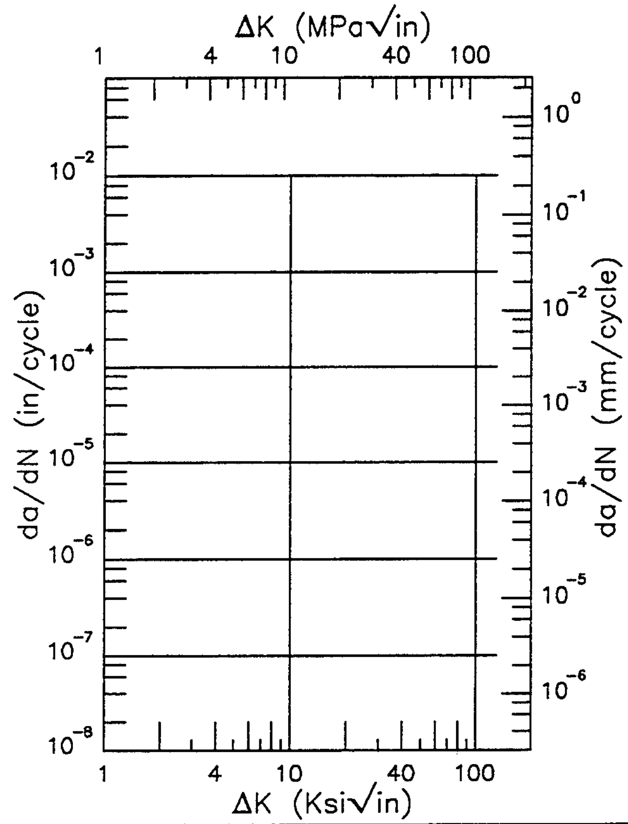
Figure 8.9.3.1.86

Condition/Ht: T73510
Form: 0.68 in. Extrusion
Specimen Type: CCP (max load specified)
Orientation: L-T
Frequency: 5.2 Hz
Environment: LAB AIR; RT

Yield Strength: 65 ksi
Ult. Strength: 75.7 ksi
Specimen Thk: 0.661 – 0.662 in.
Specimen Width: 2.999 – 3.002 in.
Ref: AL005

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.48 (min)	2.80
6.	3.38
7.	4.71
8.	6.49
9.	8.92
10.	12.2
13.	27.9
16.	54.9
17.99 (max)	81.1

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
4.17	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

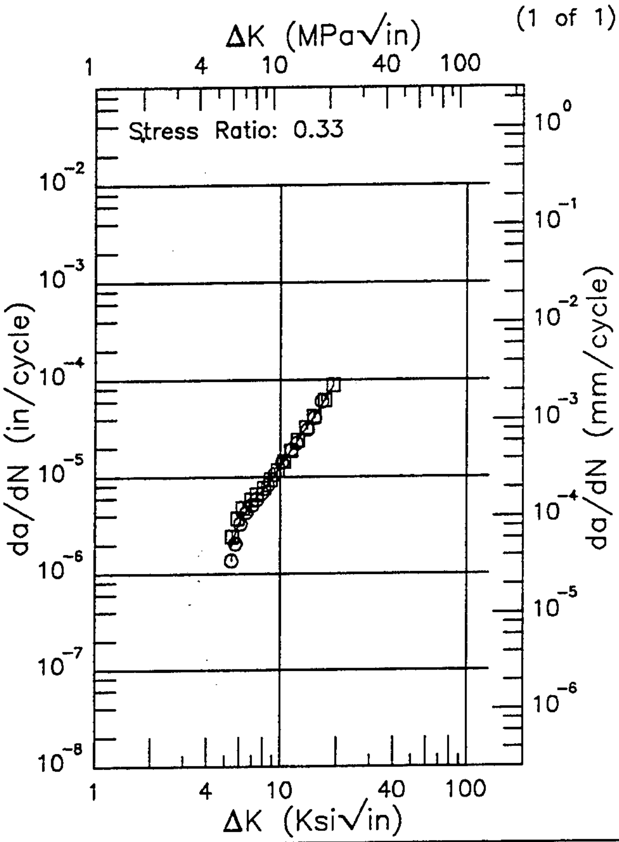
Figure 8.9.3.1.87

R 7075

Condition/Ht: T73510
Form: 0.68 in. Extrusion
Specimen Type: CCP (max load specified)
Orientation: L-T
Frequency: 5.2 Hz
Environment: LAB AIR; RT

Yield Strength: 65 ksi
Ult. Strength: 75.7 ksi
Specimen Thk: 0.62 – 0.628 in.
Specimen Width: 3.003 in.
Ref: AL005

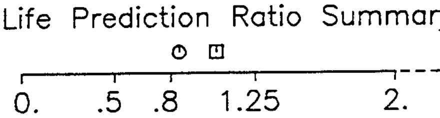
(1 of 1)

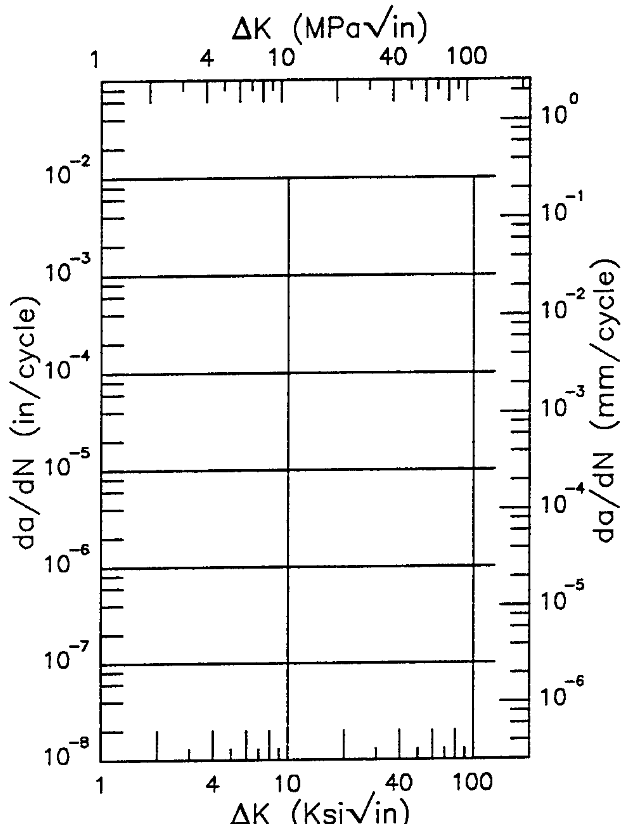


ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
5.42 (min)	1.96
6.	3.35
7.	5.54
8.	7.37
9.	9.53
10.	12.7
13.	27.1
16.	49.4
19.12 (max)	87.5

RMS % Error
10.36

Life Prediction Ratio Summary





ΔK (Ksi√in) da/dN (10^{-6} in/cycle)

RMS % Error

Life Prediction Ratio Summary

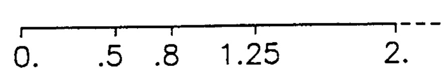
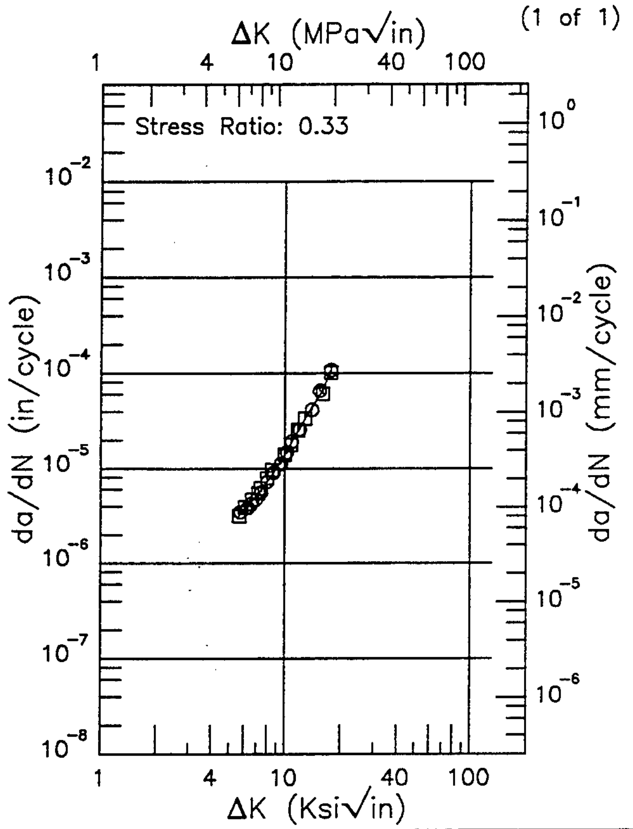


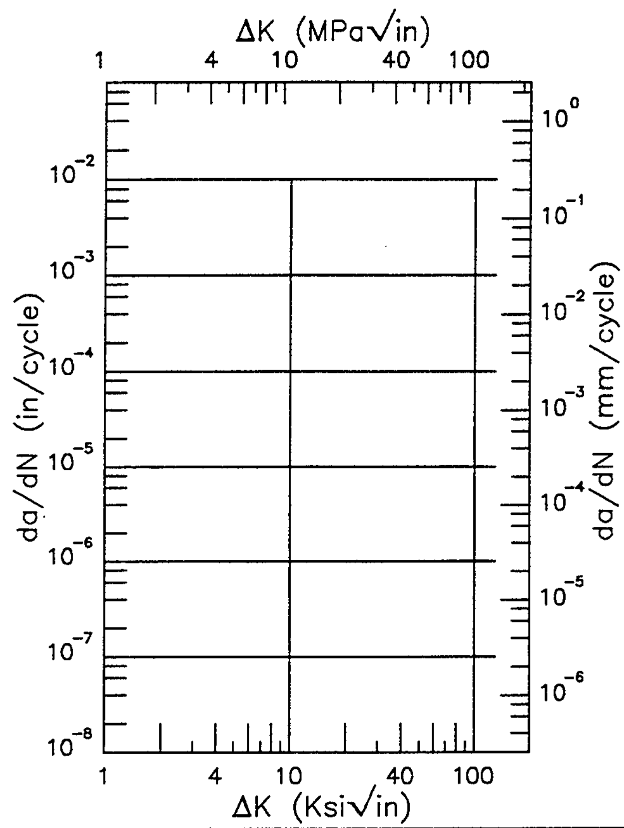
Figure 8.9.3.1.88

Condition/Ht: T73510
Form: 0.68 in. Extrusion
Specimen Type: CCP (max load specified)
Orientation: T-L
Frequency: 5.2 Hz
Environment: LAB AIR; RT

Yield Strength: 62.4 ksi
Ult. Strength: 73.1 ksi
Specimen Thk: 0.499 – 0.502 in.
Specimen Width: 3.003 – 3.004 in.
Ref: AL005

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
5.66 (min)	3.34
6.	3.67
7.	5.09
8.	7.24
9.	10.2
10.	14.1
13.	34.9
16.	66.8
17.61 (max)	107.

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error	Life Prediction Ratio Summary
5.28	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.9.3.1.89

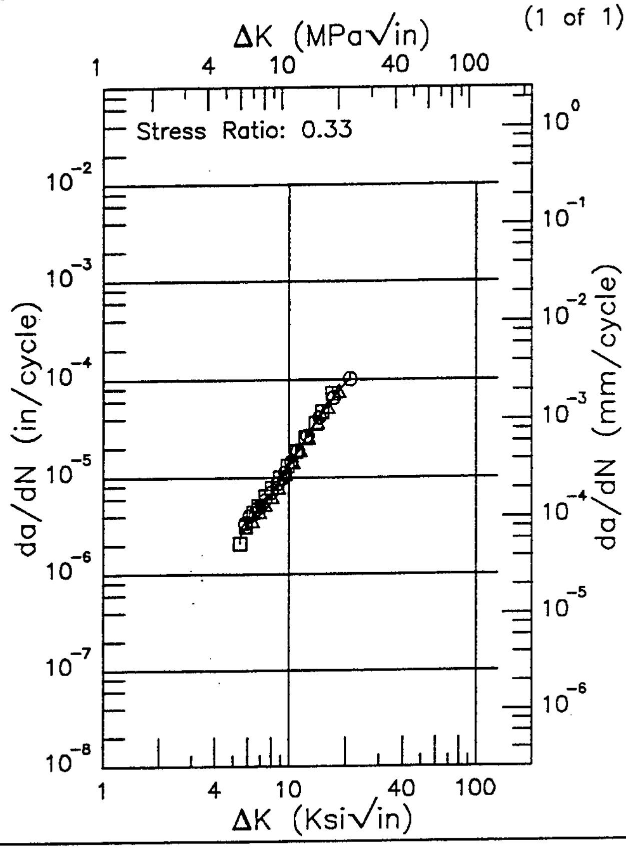
R

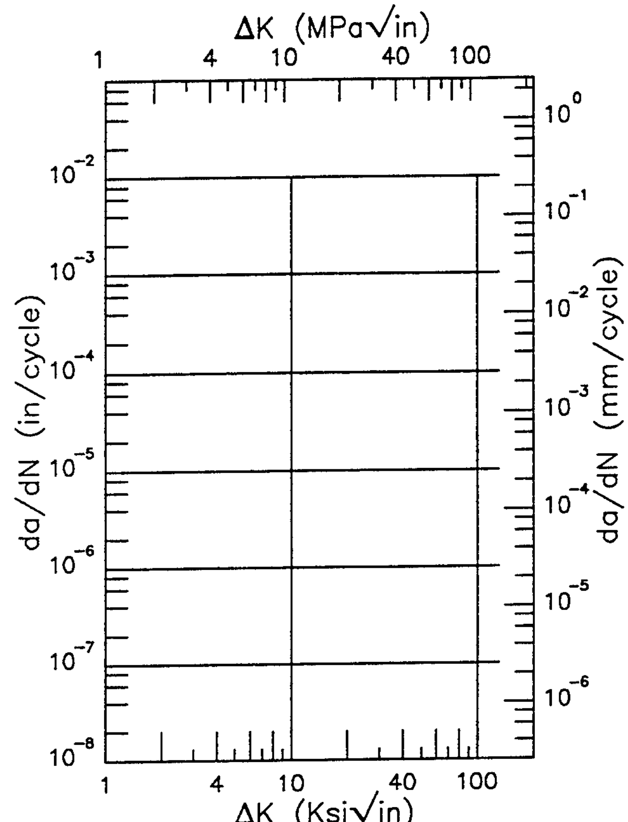
7075

Condition/Ht: T73510
Form: 3.5 in. Extruded Bar
Specimen Type: CCP (max load specified)
Orientation: L–T
Frequency: 5.2 Hz
Environment: LAB AIR; RT

Yield Strength: 63.8 ksi
Ult. Strength: 73.7 ksi
Specimen Thk: 0.75 – 0.752 in.
Specimen Width: 3.002 in.
Ref: AL002;AL005

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.42 (min)	2.37
6.	3.36
7.	5.12
8.	7.06
9.	9.47
10.	12.8
13.	30.0
16.	54.3
20.	92.2
21.01 (max)	100.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
6.86	0. .5 .8 1.25 2.

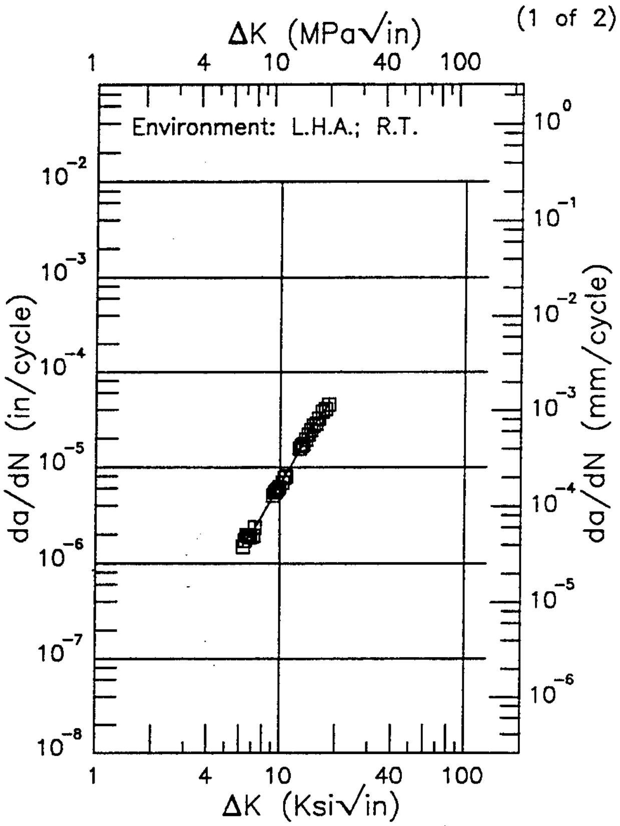
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.9.3.1.90

Condition/Ht: T73511
Form: Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.08
Frequency: 0.1 Hz

Yield Strength: 66 ksi
Ult. Strength: 77 ksi
Specimen Thk: 0.99 – 1 in.
Specimen Width: 7.4 in.
Ref: 88579

(1 of 2)



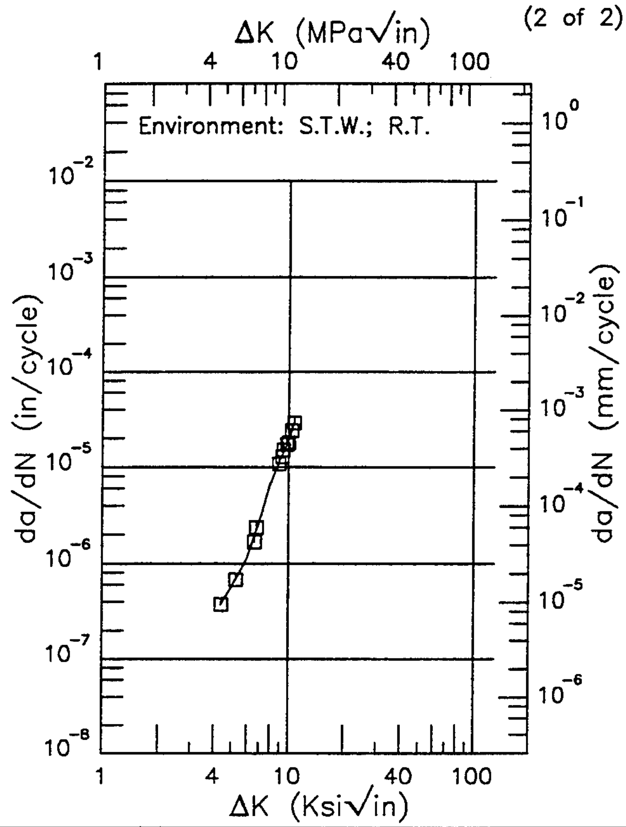
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.27 (min)	1.60
7.	2.07
8.	3.16
9.	4.72
10.	6.62
13.	15.9
16.	31.6
18.23 (max)	45.5

RMS % Error 4.42

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.36 (min)	0.372
5.	0.578
6.	1.13
7.	2.73
8.	6.61
9.	11.8
10.	18.7
10.65 (max)	29.1

RMS % Error 5.04

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.9.3.1.91

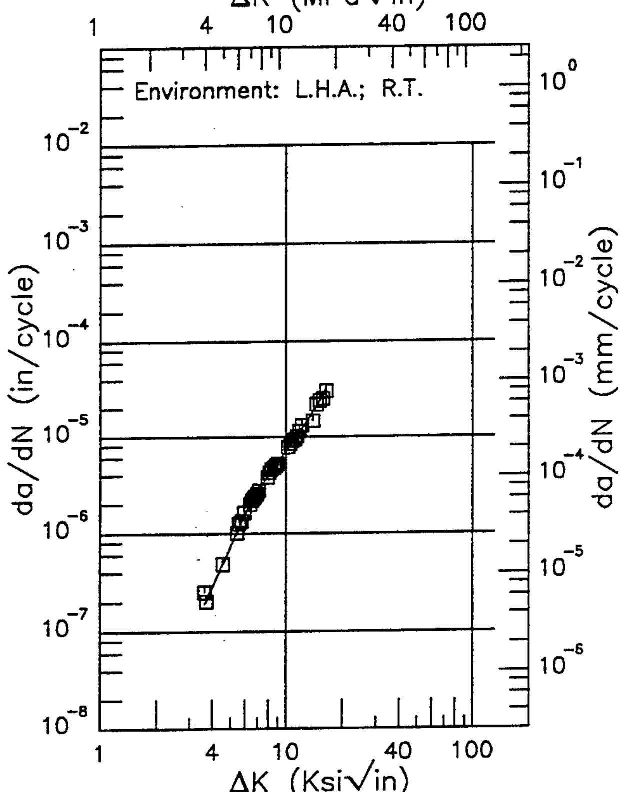
7075

E

Condition/Ht: T73511
Form: Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.08
Frequency: 1 Hz

Yield Strength: 66 ksi
Ult. Strength: 77 ksi
Specimen Thk: 1 in.
Specimen Width: 7.4 in.
Ref: 88579

(1 of 3)

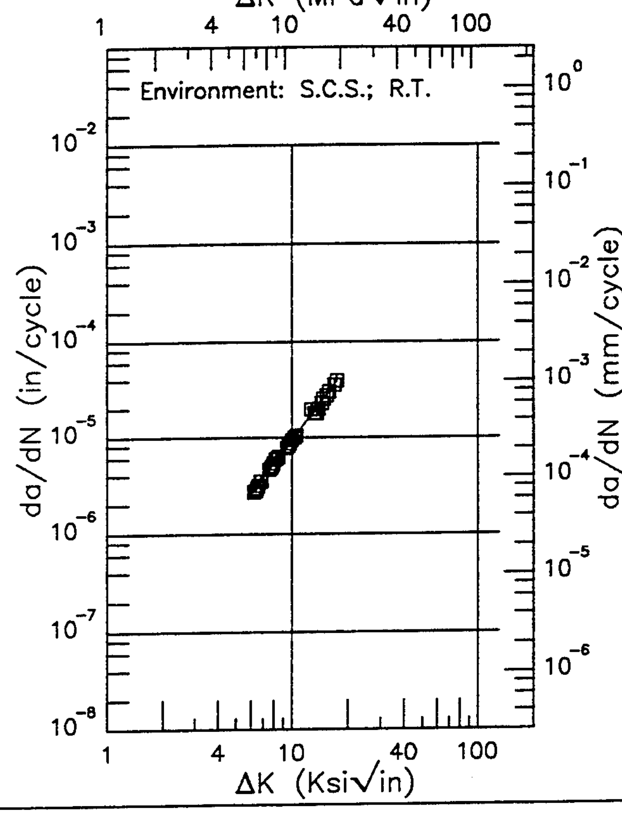


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.62 (min)	0.191
4.	0.282
5.	0.729
6.	1.56
7.	2.69
8.	3.96
9.	5.40
10.	7.17
13.	14.7
16.	28.8
16.26 (max)	32.0

RMS % Error: 7.57

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.23 (min)	2.69
7.	3.72
8.	5.31
9.	7.21
10.	9.43
13.	18.2
16.	30.6
17.44 (max)	38.2

RMS % Error: 4.24

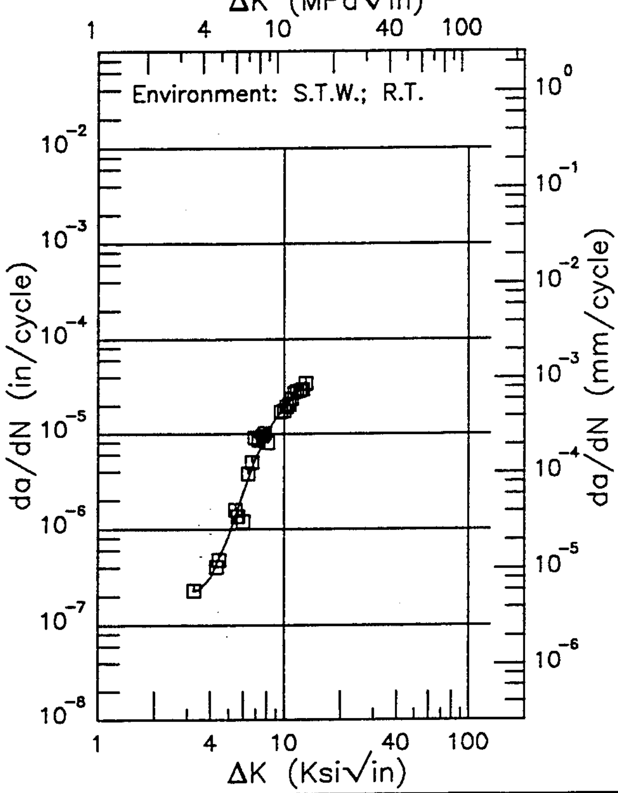
Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

Figure 8.9.3.1.92

Condition/Ht: T73511
Form: Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.08
Frequency: 1 Hz

Yield Strength: 66 ksi
Ult. Strength: 77 ksi
Specimen Thk: 1 in.
Specimen Width: 7.4 in.
Ref: 88579

(3 of 3)

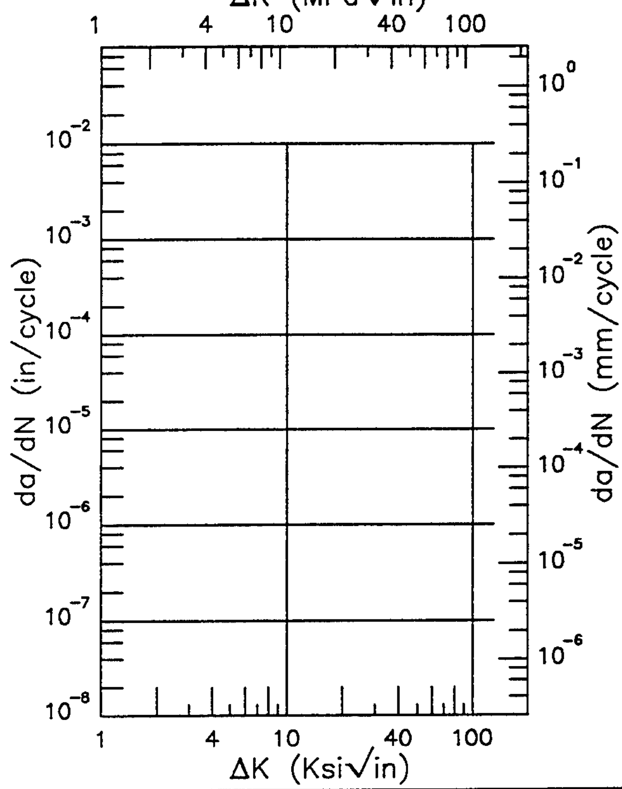


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.26 (min)	0.229
3.5	0.233
4.	0.311
5.	0.846
6.	2.40
7.	5.61
8.	10.2
9.	14.6
10.	18.5
12.95 (max)	35.4

RMS % Error: 22.81

Life Prediction Ratio Summary

0. .5 .8 1.25 2.



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.9.3.1.92 (Concluded)

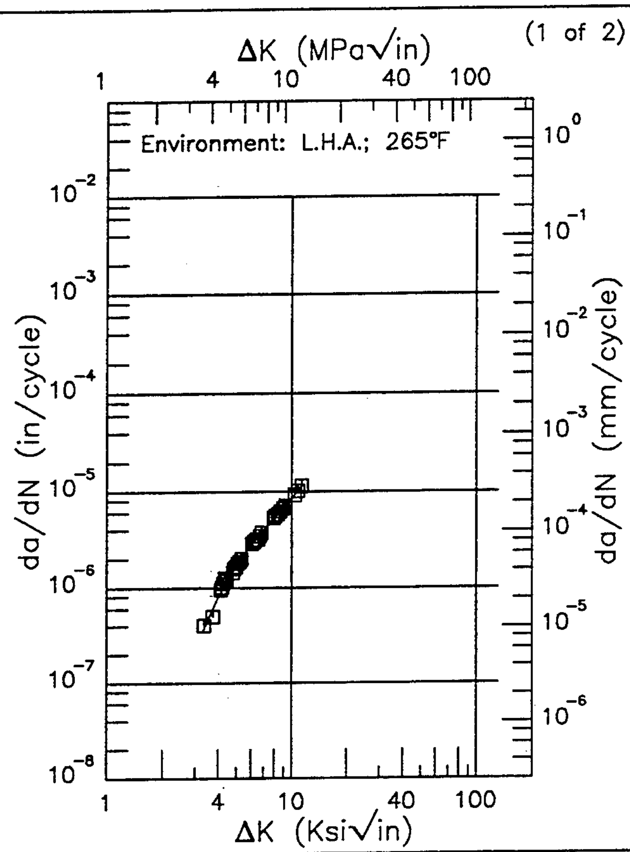
E

7075

Condition/Ht: T73511
Form: Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.08
Frequency: 6 Hz

Yield Strength: 66 ksi
Ult. Strength: 77 ksi
Specimen Thk: 1 in.
Specimen Width: 7.4 in.
Ref: 88579

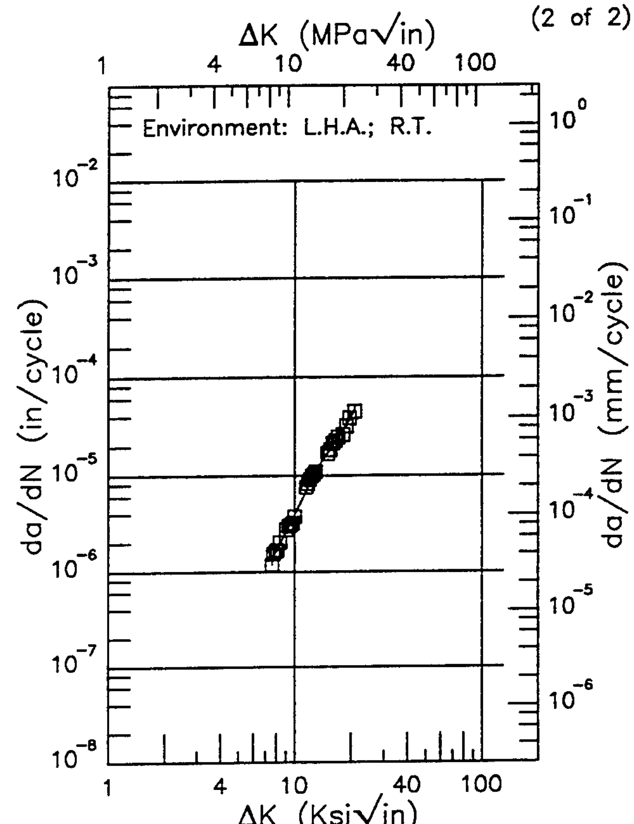
(1 of 2)



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
3.33 (min)	0.356
3.5	0.451
4.	0.795
5.	1.70
6.	2.78
7.	3.97
8.	5.28
9.	6.77
10.	8.51
11.28 (max)	11.2

RMS % Error	Life Prediction Ratio Summary
6.88	0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
7.56 (min)	1.36
8.	1.65
9.	2.59
10.	4.01
13.	11.4
16.	20.3
20.	39.1
20.79 (max)	46.2

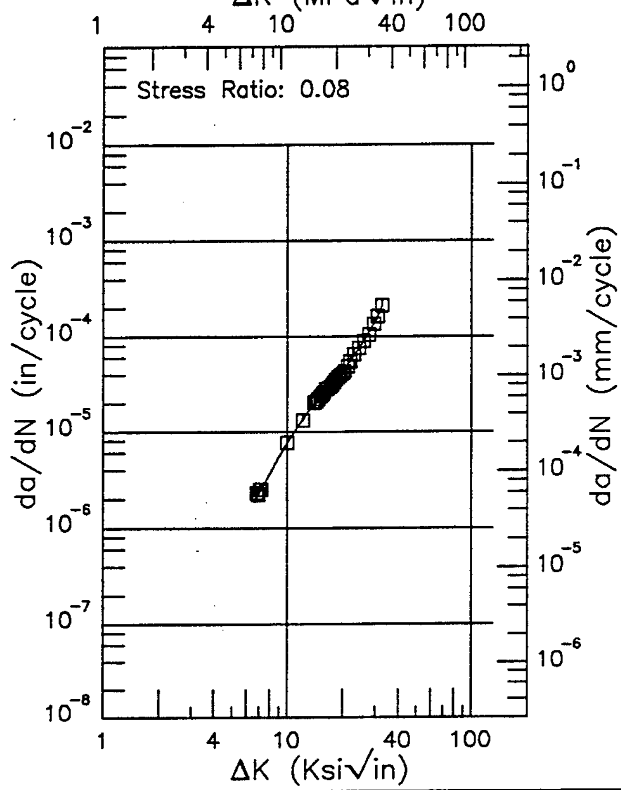
RMS % Error	Life Prediction Ratio Summary
5.87	0. .5 .8 1.25 2.

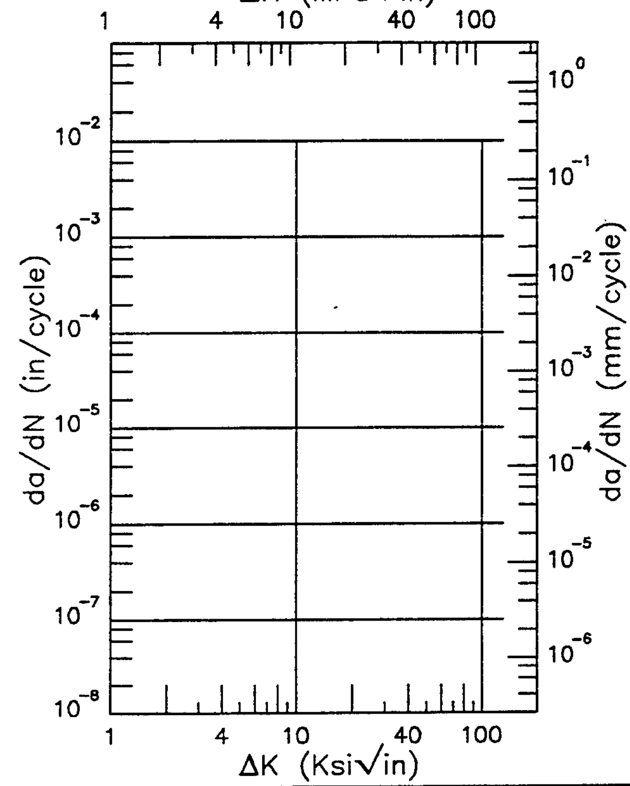
Figure 8.9.3.1.93

Condition/Ht: T73511
Form: Extrusion
Specimen Type: CT
Orientation: L–T
Frequency: 6 Hz
Environment: L.H.A.; RT

Yield Strength: 66 ksi
Ult. Strength: 77 ksi
Specimen Thk: 0.5 in.
Specimen Width: 7.4 in.
Ref: 88579

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.80 (min)	2.07
7.	2.29
8.	3.66
9.	5.48
10.	7.74
13.	16.5
16.	26.2
20.	43.0
25.	80.3
30.	144.
32.61 (max)	213.

ΔK (Ksi√in) da/dN (10^{-6}in/cycle)

RMS % Error
3.46

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

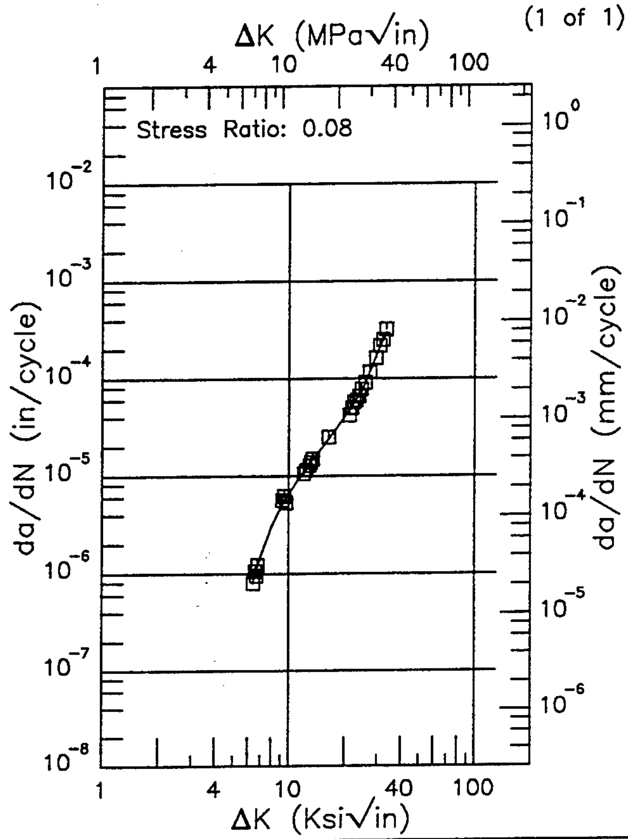
Figure 8.9.3.1.94

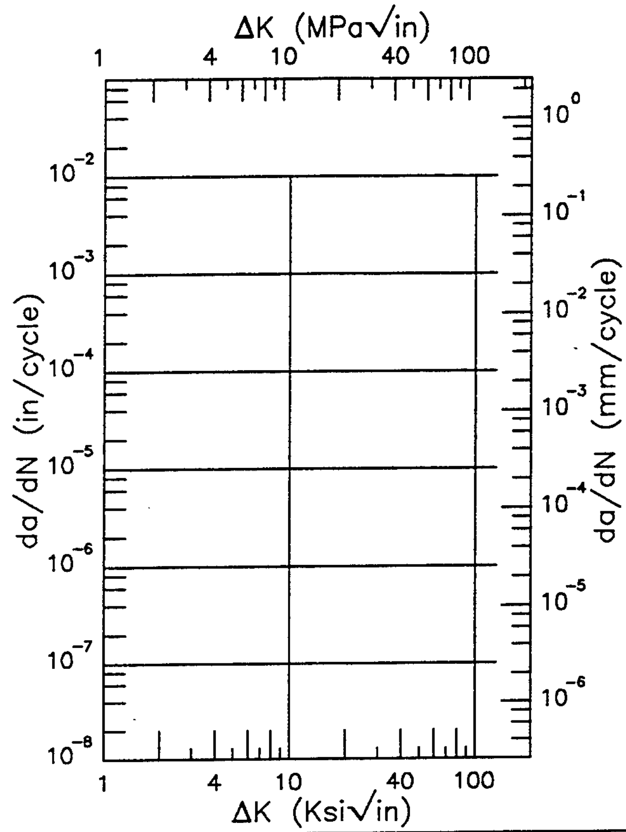
R — 7075

Condition/Ht: T73511
Form: Extrusion
Specimen Type: CT
Orientation: L–T
Frequency: 6 Hz
Environment: L.H.A.; RT

Yield Strength: 66 ksi
Ult. Strength: 77 ksi
Specimen Thk: 0.25 in.
Specimen Width: 7.4 in.
Ref: 88579

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.38 (min)	0.808
7.	1.48
8.	2.98
9.	4.78
10.	6.74
13.	13.3
16.	22.6
20.	40.2
25.	77.4
30.	186.
33.38 (max)	302.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
5.89

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

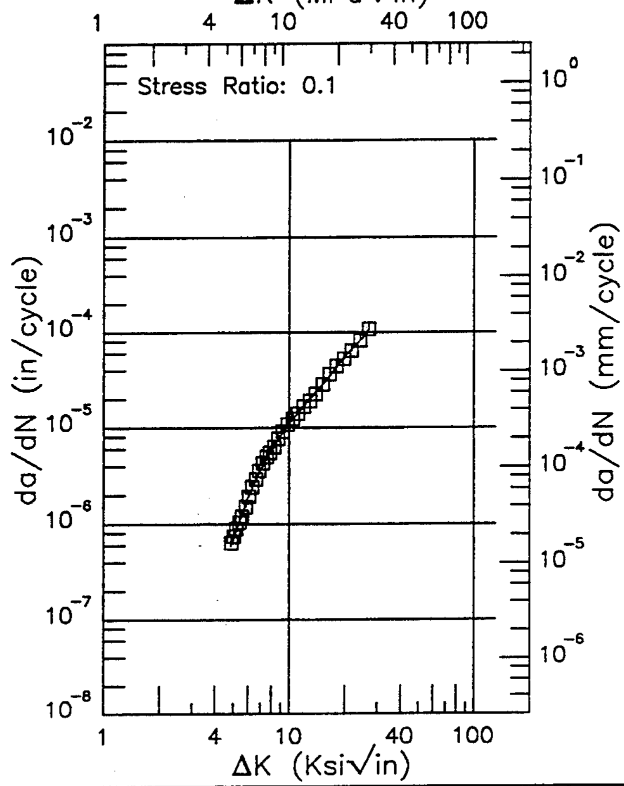
0. .5 .8 1.25 2.

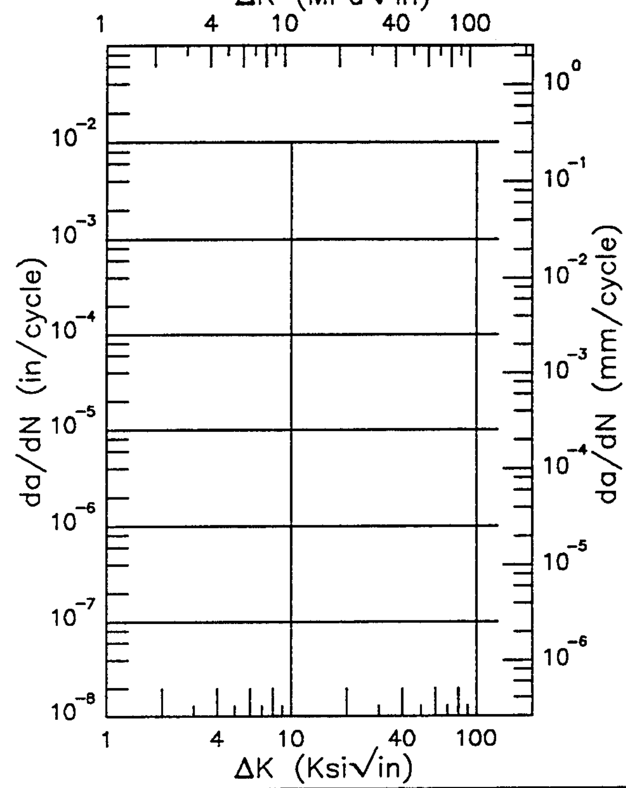
Figure 8.9.3.1.95

Condition/Ht: T73511
Form: 4 in. Extrusion
Specimen Type: CT
Orientation: L–T
Frequency: 10 Hz
Environment: LAB AIR; RT

Yield Strength: 67.4 ksi
Ult. Strength:
Specimen Thk: 0.746 in.
Specimen Width: 3 in.
Ref: SW001

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.87 (min)	0.587
5.	0.696
6.	1.87
7.	3.65
8.	5.86
9.	8.36
10.	11.0
13.	20.1
16.	32.2
20.	55.6
25.	86.8
26.89 (max)	107.

ΔK (Ksi√in) da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
3.19	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

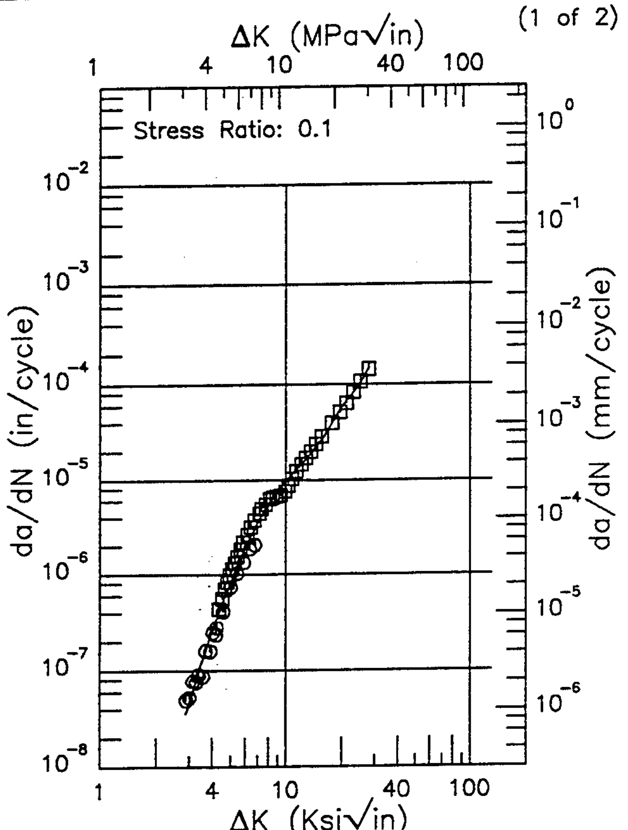
Figure 8.9.3.1.96

R — 7075

Condition/Ht: T73511
Form: 4 in. Extrusion
Specimen Type: CT
Orientation: L-T
Frequency: 20 Hz
Environment: LAB AIR; RT

Yield Strength: 67.4 ksi
Ult. Strength:
Specimen Thk: 0.746 – 0.749 in.
Specimen Width: 3 – 3.003 in.
Ref: SW001

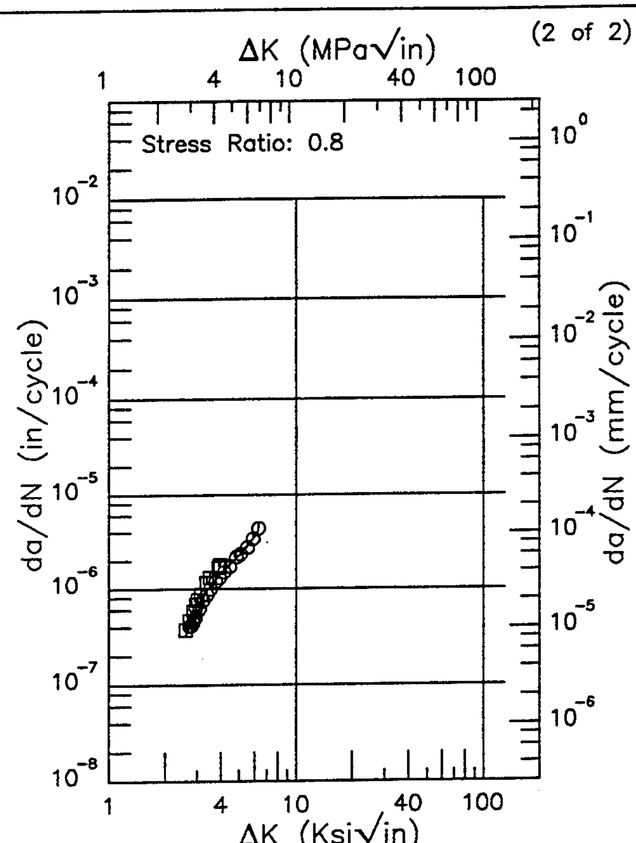
(1 of 2)



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
2.88 (min)	0.0357
3.	0.0460
3.5	0.119
4.	0.259
5.	0.837
6.	1.93
7.	3.53
8.	5.53
9.	7.69
10.	9.82
13.	16.7
16.	28.6
20.	58.3
25.	99.8
27.75 (max)	143.

RMS % Error	Life Prediction Ratio Summary
18.25	0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
2.59 (min)	0.330
3.	0.659
3.5	1.08
4.	1.46
5.	2.25
6.	3.57
6.29 (max)	4.19

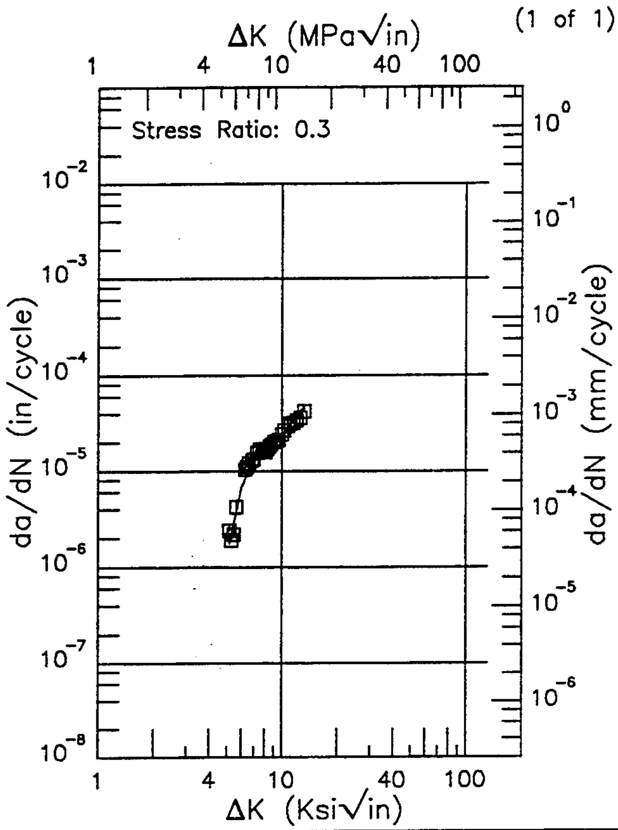
RMS % Error	Life Prediction Ratio Summary
12.78	0. .5 .8 1.25 2.

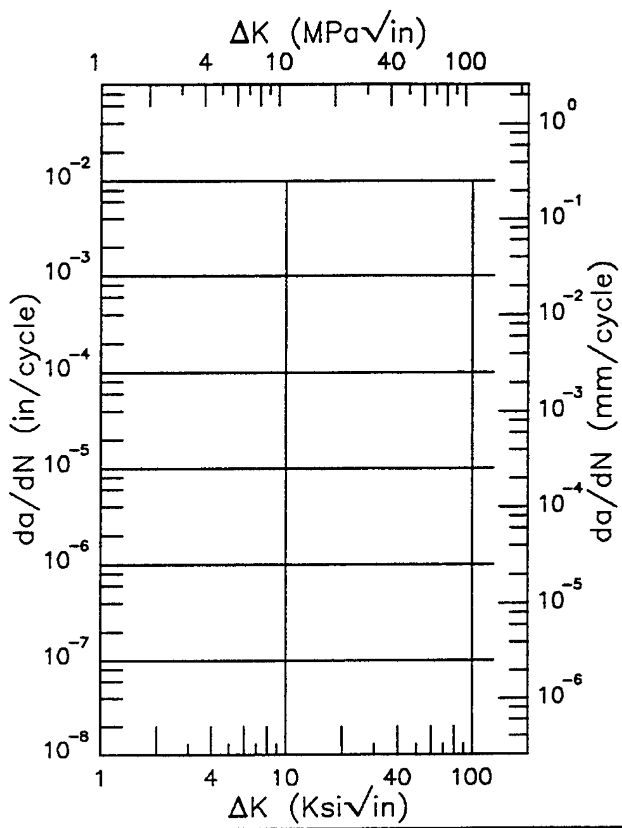
Figure 8.9.3.1.97

Condition/Ht: T73511
Form: Extrusion
Specimen Type: CT
Orientation: L–T
Frequency: 1 Hz
Environment: S.T.W.; RT

Yield Strength: 66 ksi
Ult. Strength: 77 ksi
Specimen Thk: 1 in.
Specimen Width: 7.4 in.
Ref: 88579

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.15 (min)	1.73
6.	6.72
7.	13.9
8.	18.7
9.	21.2
10.	23.3
13.	45.4
13.15 (max)	48.0

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
13.14	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

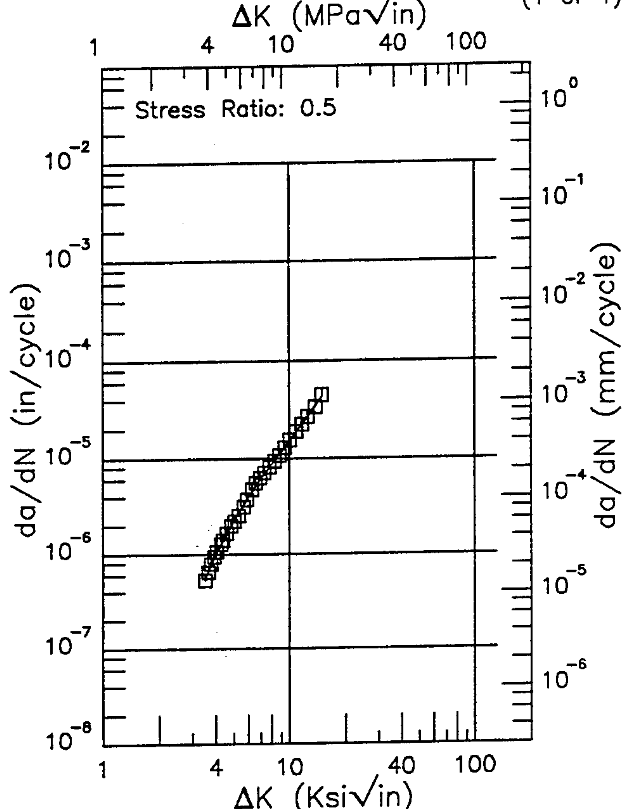
Figure 8.9.3.1.98

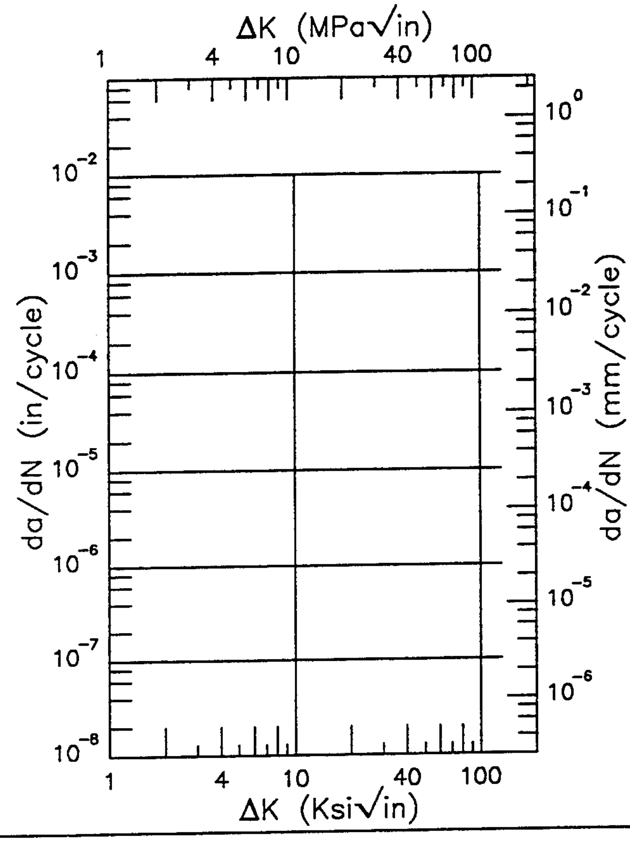
R 7075

Condition/Ht: T73511
Form: 4 in. Extrusion
Specimen Type: CT
Orientation: L-T
Frequency: 20 Hz
Environment: LAB AIR; RT

Yield Strength: 67.4 ksi
Ult. Strength:
Specimen Thk: 0.785 in.
Specimen Width: 3 in.
Ref: SW001

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.51 (min)	0.568
4.	0.981
5.	2.22
6.	3.98
7.	6.17
8.	8.73
9.	11.7
10.	15.1
13.	29.8
14.85 (max)	43.6

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
3.43	0. .5 .8 1.25 2.

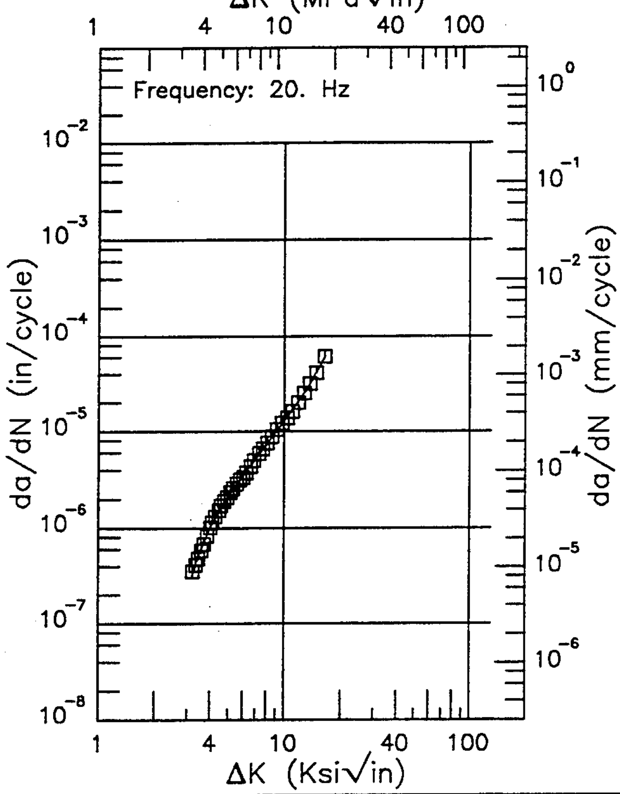
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.9.3.1.99

Condition/Ht: T73511
Form: 4 in. Extrusion
Specimen Type: CT
Orientation: L-T
Stress Ratio: 0.5
Environment: LAB AIR; RT

Yield Strength: 67.4 ksi
Ult. Strength:
Specimen Thk: 0.748 – 0.749 in.
Specimen Width: 3 in.
Ref: SW001

(1 of 2)



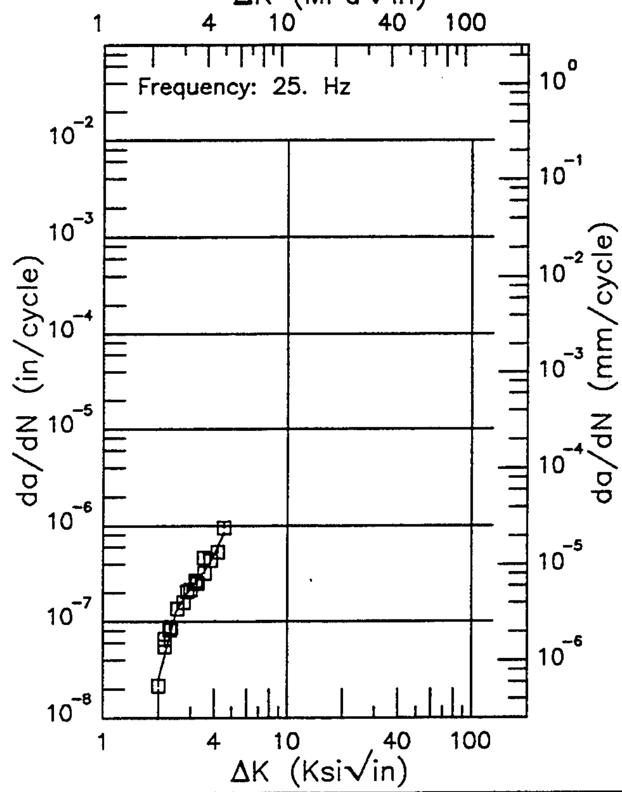
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.20 (min)	0.318
3.5	0.535
4.	0.997
5.	2.14
6.	3.47
7.	5.14
8.	7.28
9.	9.88
10.	12.9
13.	26.3
16.	55.7
16.34 (max)	60.0

RMS % Error: 3.44

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.00 (min)	0.0252
2.5	0.128
3.	0.225
3.5	0.323
4.	0.495
4.52 (max)	0.850

RMS % Error: 19.68

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.9.3.1.100

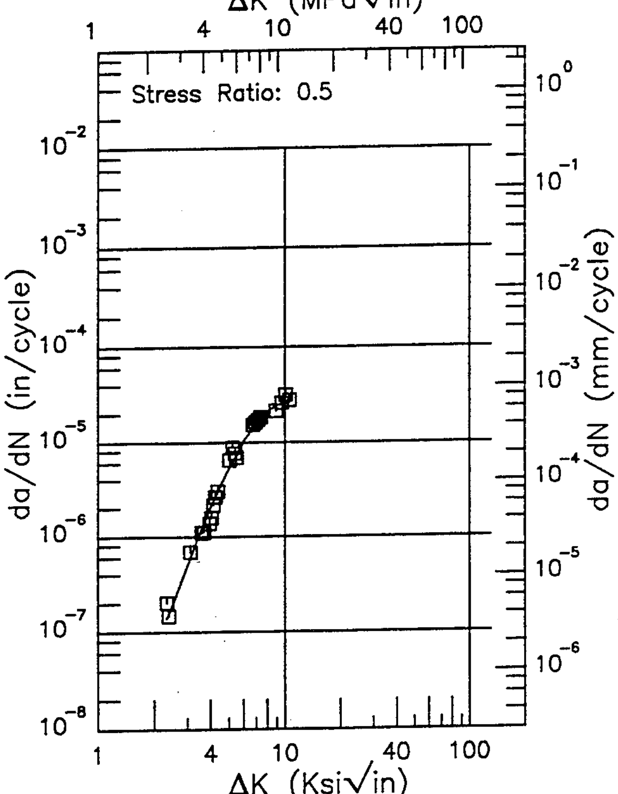
R

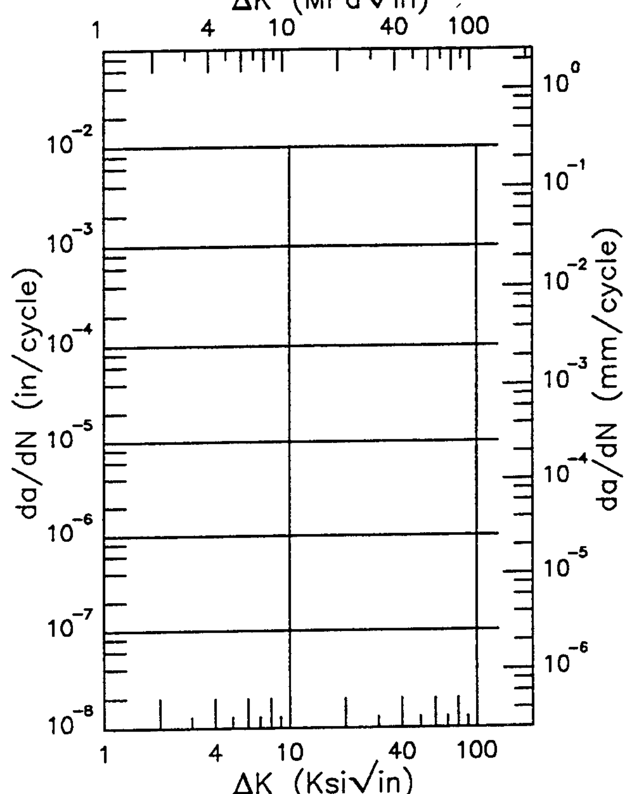
7075

Condition/Ht: T73511
Form: Extrusion
Specimen Type: CT
Orientation: L–T
Frequency: 1 Hz
Environment: S.T.W.; RT

Yield Strength: 66 ksi
Ult. Strength: 77 ksi
Specimen Thk: 1 in.
Specimen Width: 7.4 in.
Ref: 88579

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.33 (min)	0.139
2.5	0.197
3.	0.495
3.5	1.07
4.	2.02
5.	5.32
6.	10.4
7.	16.1
8.	21.3
9.	24.8
10.	26.2
10.49 (max)	26.1

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
17.48

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

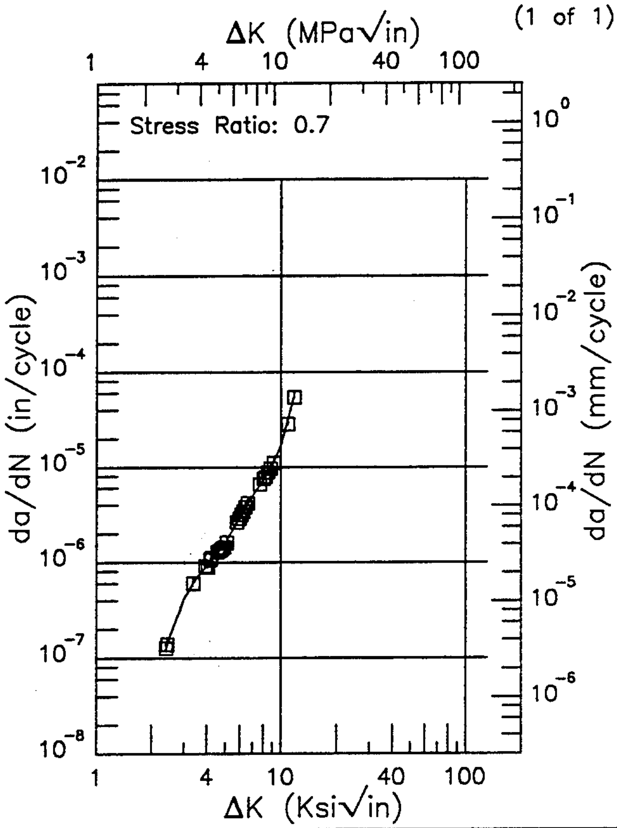
0. .5 .8 1.25 2.

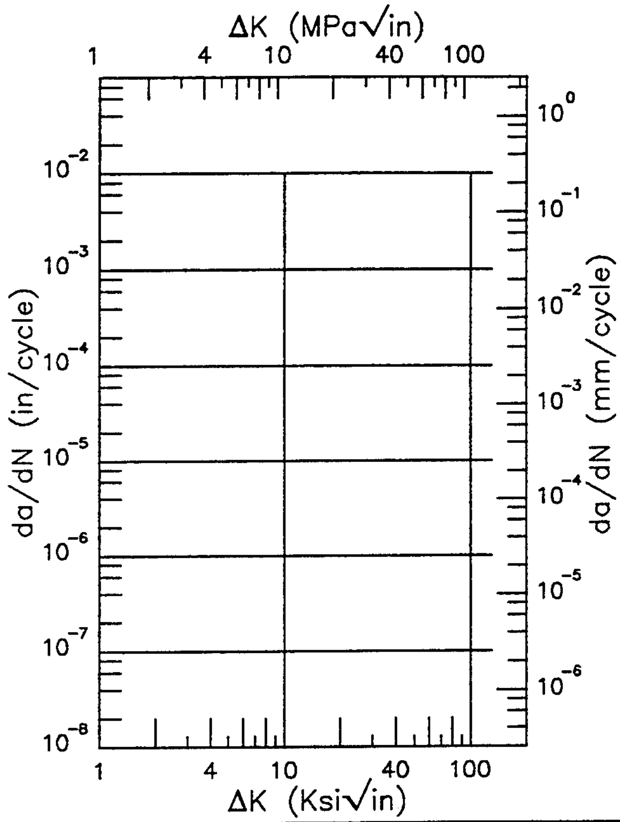
Figure 8.9.3.1.101

Condition/Ht: T73511
Form: Extrusion
Specimen Type: CT
Orientation: L–T
Frequency: 6 Hz
Environment: L.H.A.; RT

Yield Strength: 66 ksi
Ult. Strength: 77 ksi
Specimen Thk: 1 in.
Specimen Width: 7.4 in.
Ref: 88579

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.39 (min)	0.118
2.5	0.163
3.	0.416
3.5	0.672
4.	0.912
5.	1.59
6.	2.93
7.	4.91
8.	7.26
9.	10.7
10.	17.2
11.70 (max)	54.0

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
3.59

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

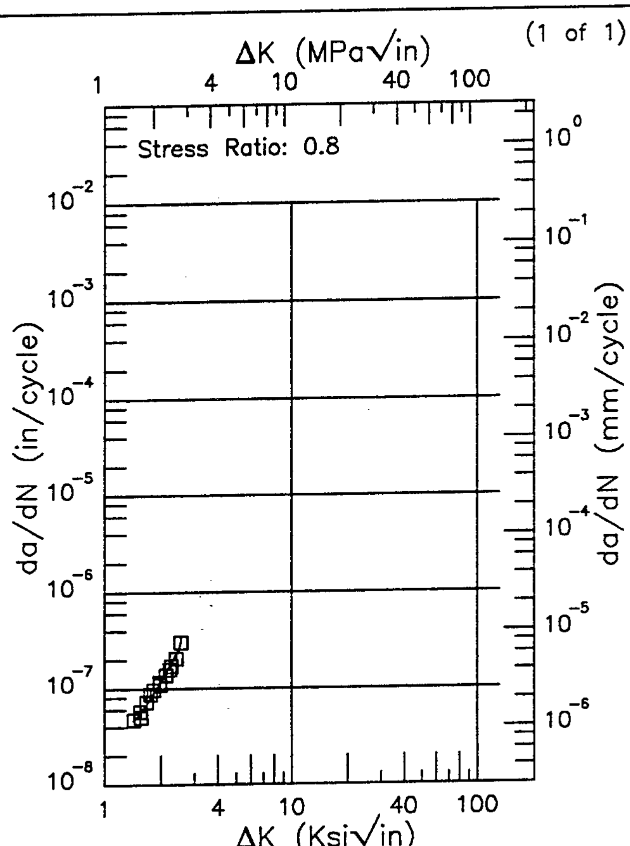
Figure 8.9.3.1.102

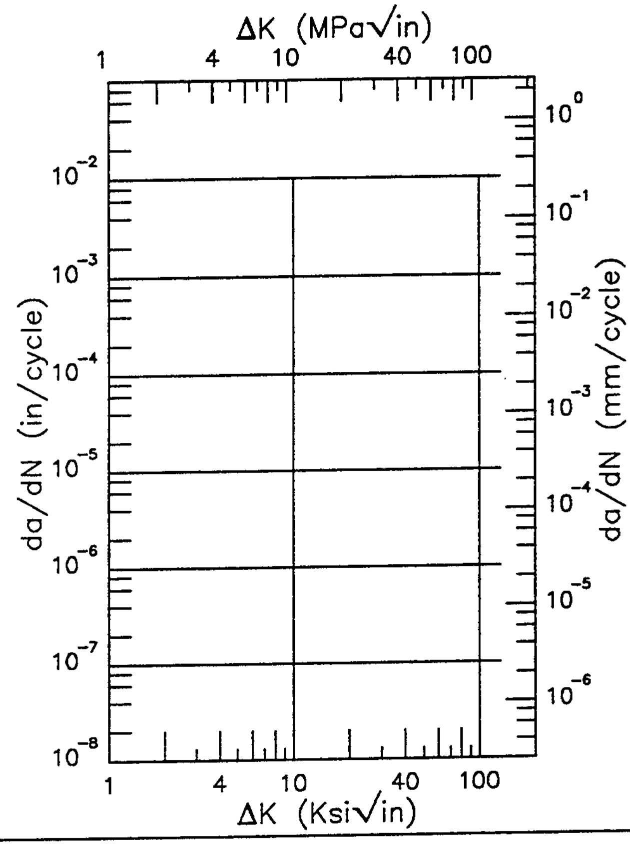
R 7075

Condition/Ht: T73511
Form: 4 in. Extrusion
Specimen Type: CT
Orientation: L–T
Frequency: 30 Hz
Environment: LAB AIR; RT

Yield Strength: 67.4 ksi
Ult. Strength:
Specimen Thk: 0.749 in.
Specimen Width: 3 in.
Ref: SW001

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
1.43 (min)	0.0465
1.6	0.0594
2.	0.117
2.5	0.267
2.53 (max)	0.299

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error 7.20

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

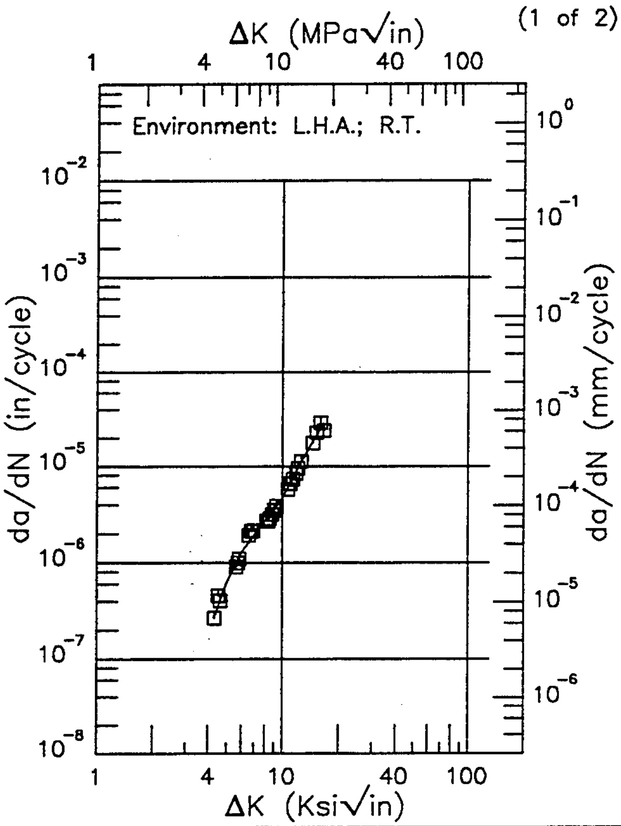
0. .5 .8 1.25 2.

Figure 8.9.3.1.103

Condition/Ht: T73511
Form: Extrusion
Specimen Type: CT
Orientation: T–L
Stress Ratio: 0.08
Frequency: 6 Hz

Yield Strength: 61 ksi
Ult. Strength: 72 ksi
Specimen Thk: 0.99 – 1 in.
Specimen Width: 7.4 in.
Ref: 88579

(1 of 2)

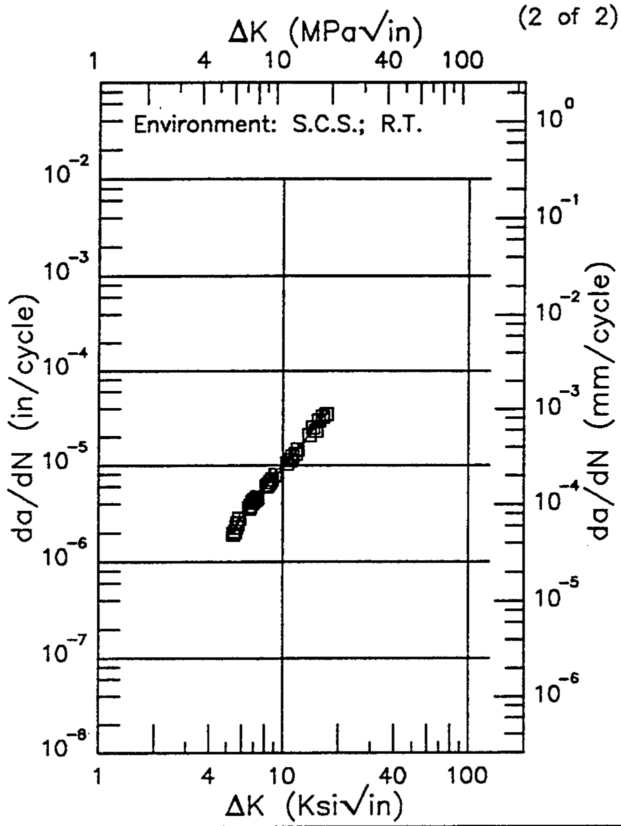


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.29 (min)	0.272
5.	0.633
6.	1.27
7.	1.94
8.	2.66
9.	3.53
10.	4.72
13.	12.2
16.	25.7
16.52 (max)	28.3

RMS % Error: 9.80

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.40 (min)	2.01
6.	2.82
7.	4.25
8.	5.76
9.	7.44
10.	9.38
13.	17.6
16.	30.0
17.13 (max)	35.3

RMS % Error: 3.48

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

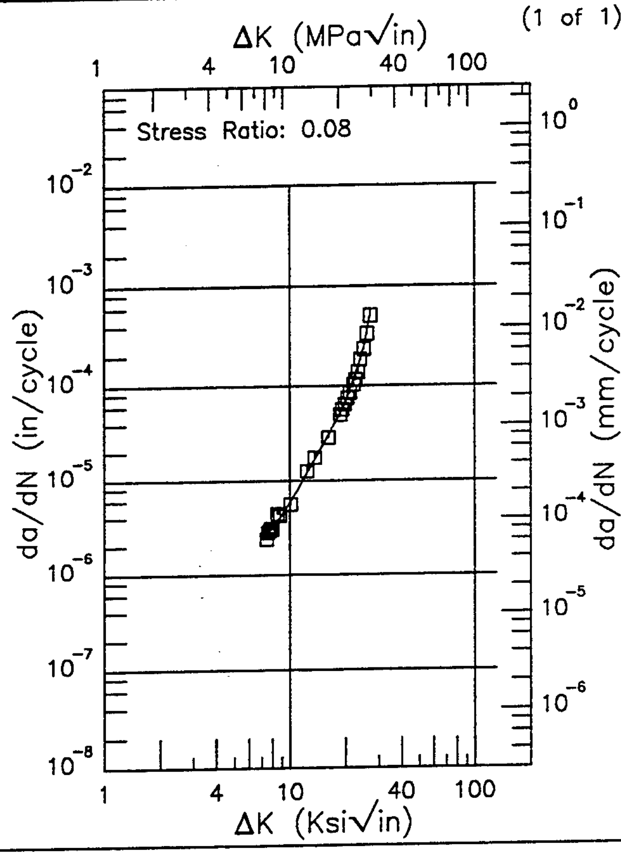
Figure 8.9.3.1.104

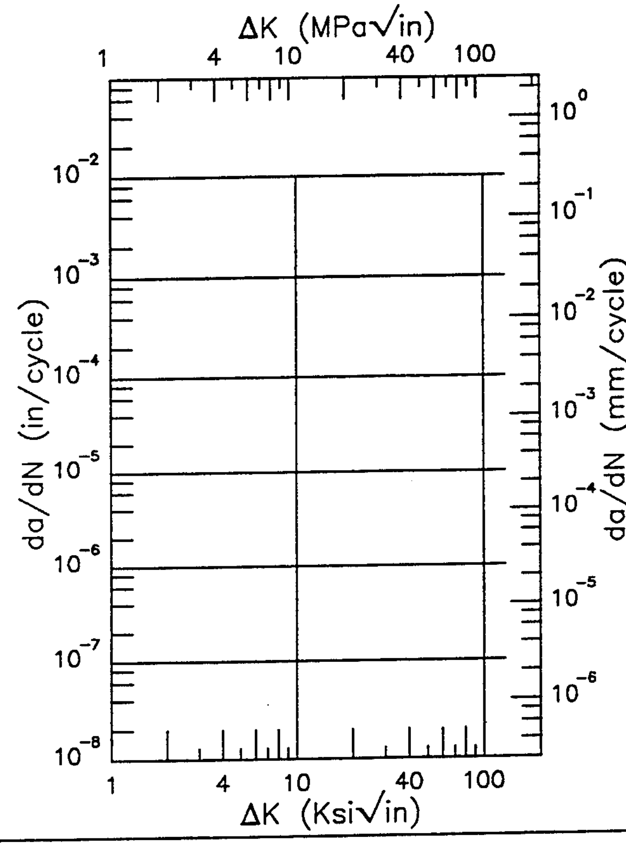
R 7075

Condition/Ht: T73511
Form: Extrusion
Specimen Type: CT
Orientation: T-L
Frequency: 6 Hz
Environment: L.H.A.; RT

Yield Strength: 61 ksi
Ult. Strength: 72 ksi
Specimen Thk: 0.48 in.
Specimen Width: 7.4 in.
Ref: 88579

(1 of 1)



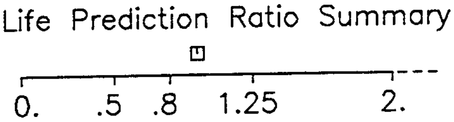


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
7.42 (min)	2.64
8.	3.15
9.	4.32
10.	5.95
13.	14.5
16.	30.1
20.	66.7
25.	246.
26.97 (max)	501.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
7.10

Life Prediction Ratio Summary



RMS % Error

Life Prediction Ratio Summary

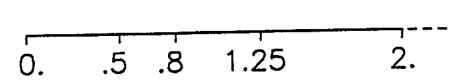
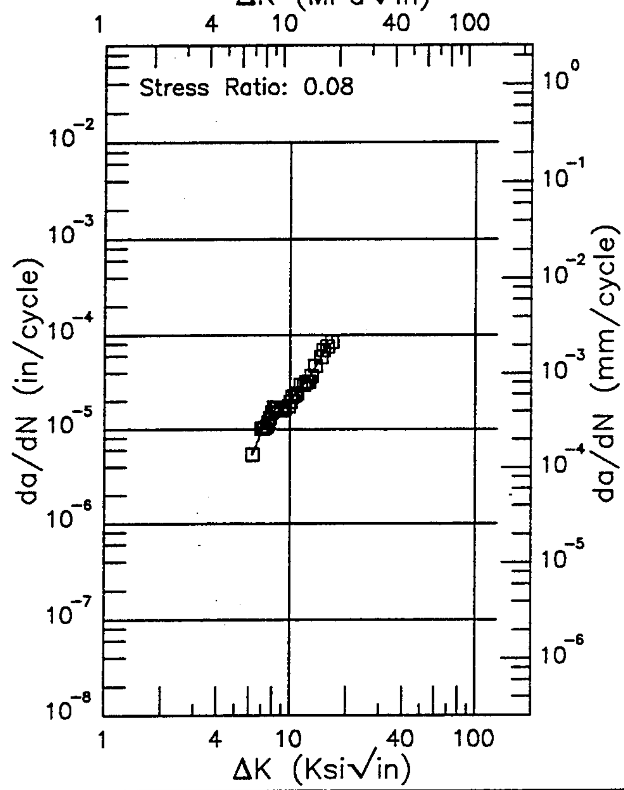


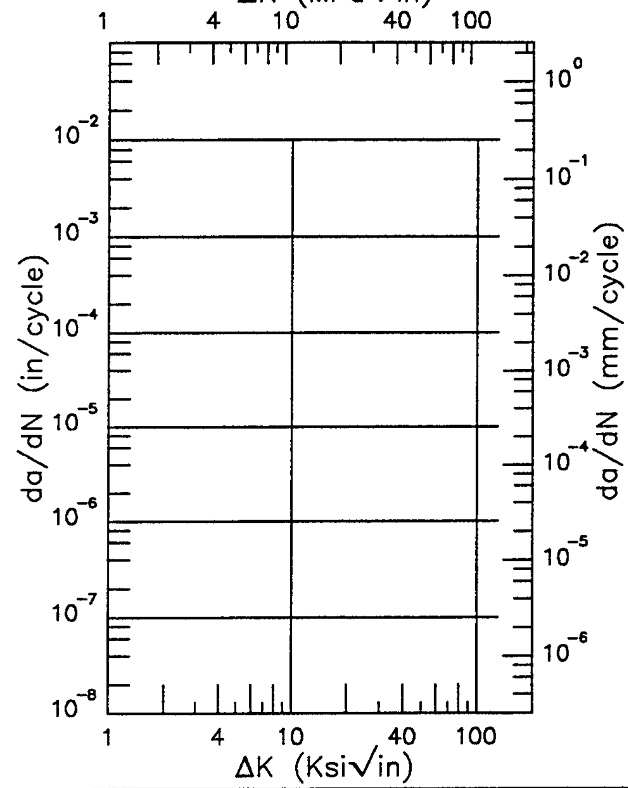
Figure 8.9.3.1.105

Condition/Ht: T73511
Form: Extrusion
Specimen Type: CT
Orientation: T–L
Frequency: 1 Hz
Environment: S.T.W.; RT

Yield Strength: 61 ksi
Ult. Strength: 72 ksi
Specimen Thk: 1 in.
Specimen Width: 7.4 in.
Ref: 88579

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.24 (min)	5.38
7.	9.69
8.	14.0
9.	16.9
10.	19.8
13.	38.6
16.	77.5
16.73 (max)	83.5

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
6.36	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

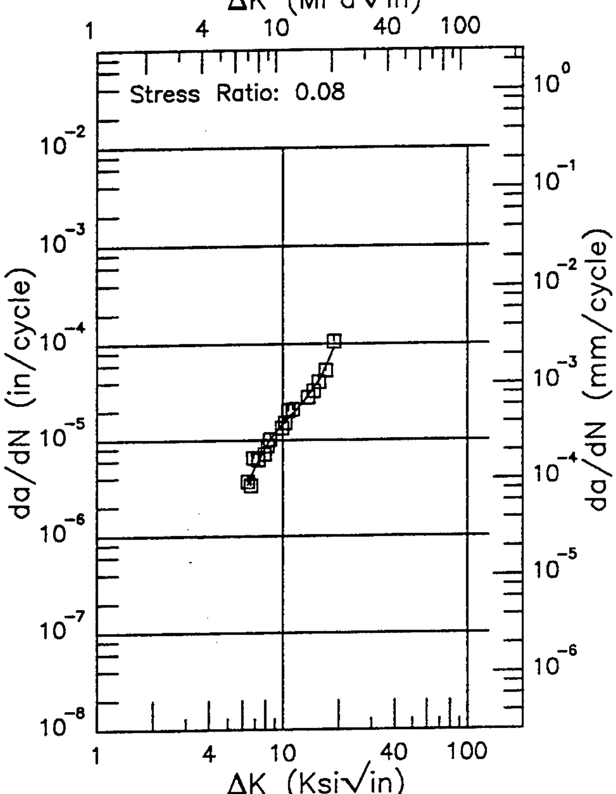
Figure 8.9.3.1.106

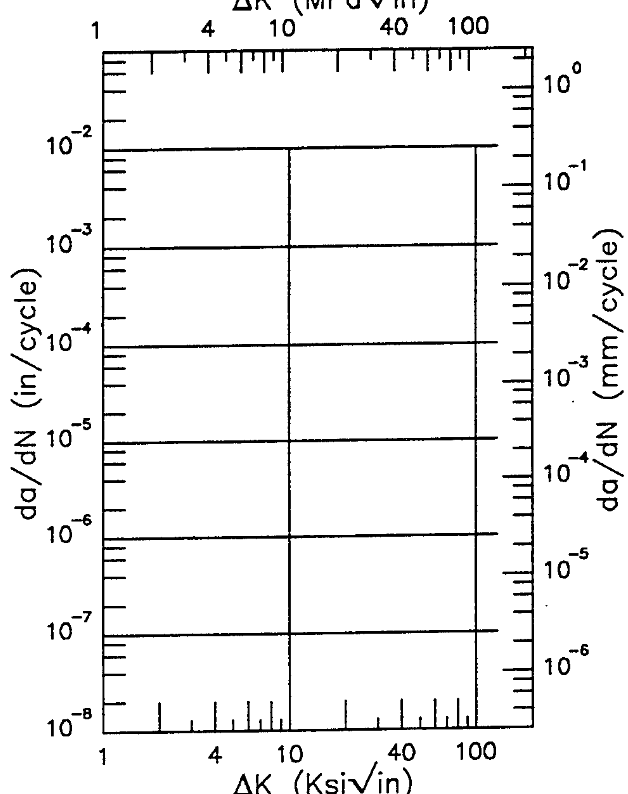
R 7075

Condition/Ht: T73511
Form: Extrusion
Specimen Type: CT
Orientation: T–L
Frequency: 1 Hz
Environment: S.T.W.; RT

Yield Strength: 61 ksi
Ult. Strength: 72 ksi
Specimen Thk: 1 in.
Specimen Width: 6 in.
Ref: 88579

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.42 (min)	3.39
7.	5.16
8.	8.47
9.	11.7
10.	14.8
13.	25.1
16.	45.4
18.79 (max)	92.3

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
12.95	0. .5 .8 1.25 2.

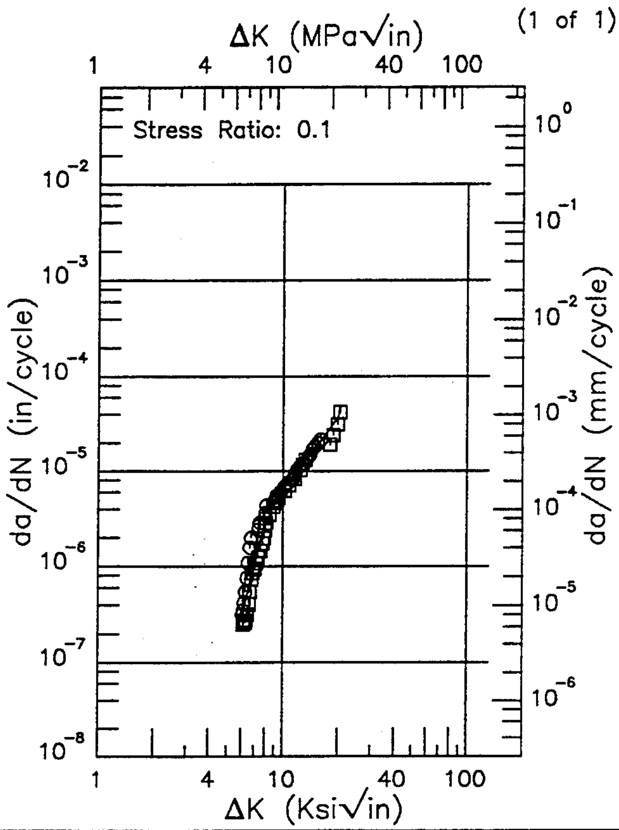
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

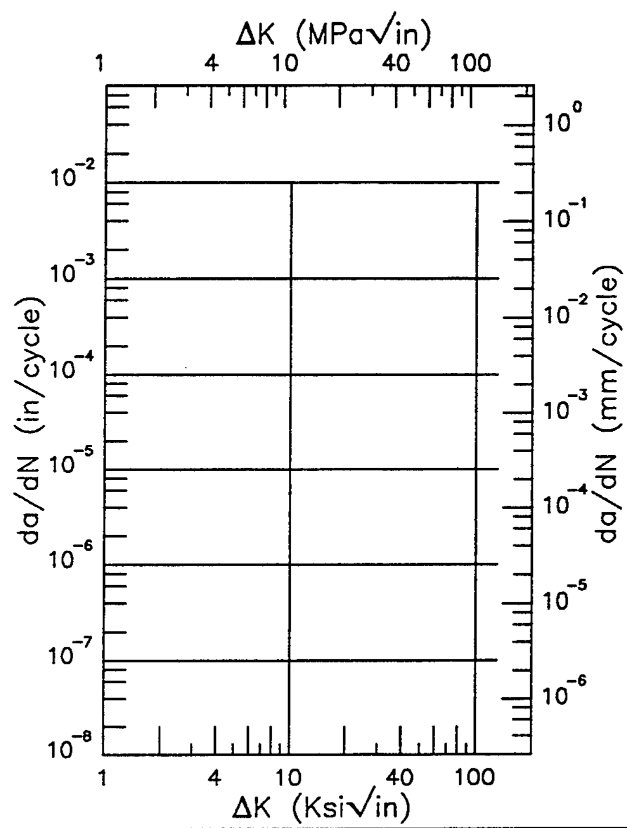
Figure 8.9.3.1.107

Condition/Ht: T73511–HIGH PURITY
Form: 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Frequency: 30 Hz
Environment: LAB AIR; RT

Yield Strength: 68.6 ksi
Ult. Strength: 77.7 ksi
Specimen Thk: 0.625 in.
Specimen Width: 2.55 in.
Ref: WA001

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.03 (min)	0.296
7.	1.15
8.	2.69
9.	4.57
10.	6.41
13.	12.2
16.	20.9
20.	37.3
20.26 (max)	45.1

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
34.52	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

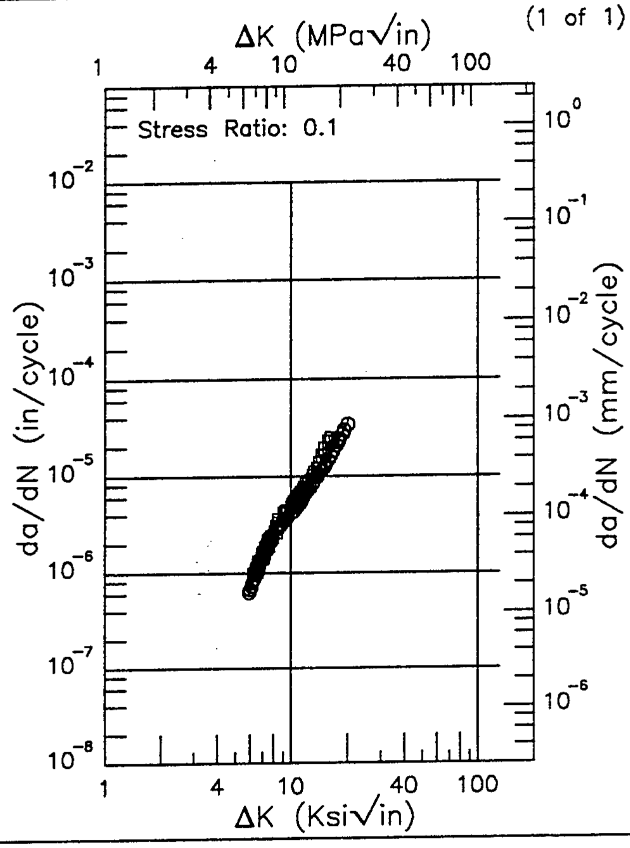
Figure 8.9.3.1.108

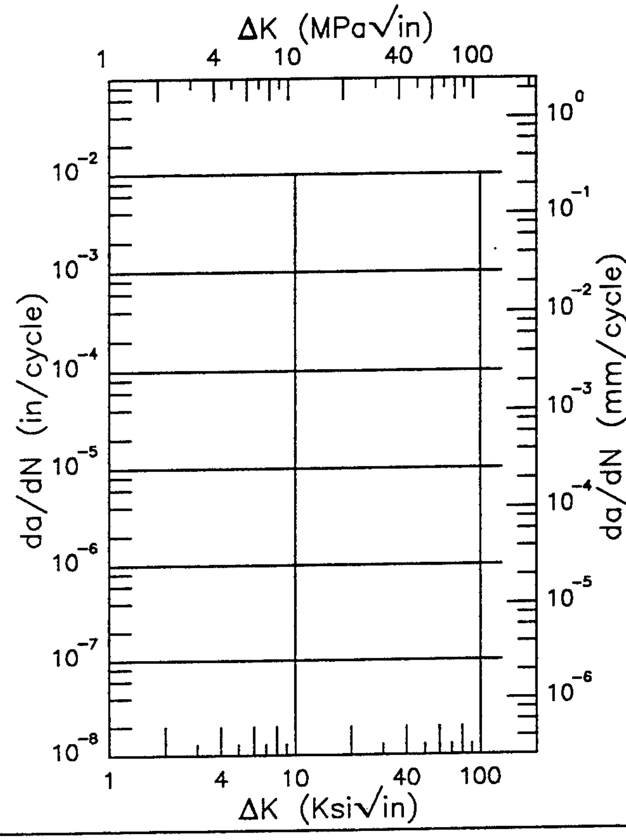
R 7075

Condition/Ht: T73511–HIGH PURITY
Form: 1.5 in. Extrusion
Specimen Type: CT
Orientation: T–L
Frequency: 30 Hz
Environment: LAB AIR; RT

Yield Strength: 63 ksi
Ult. Strength: 73.1 ksi
Specimen Thk: 0.625 in.
Specimen Width: 2.55 in.
Ref: WA001

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
5.92 (min)	0.598
6.	0.656
7.	1.54
8.	2.51
9.	3.47
10.	4.47
13.	8.94
16.	17.4
20.	34.5
20.01 (max)	34.6

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error	Life Prediction Ratio Summary
9.00	0. .5 .8 1.25 2.

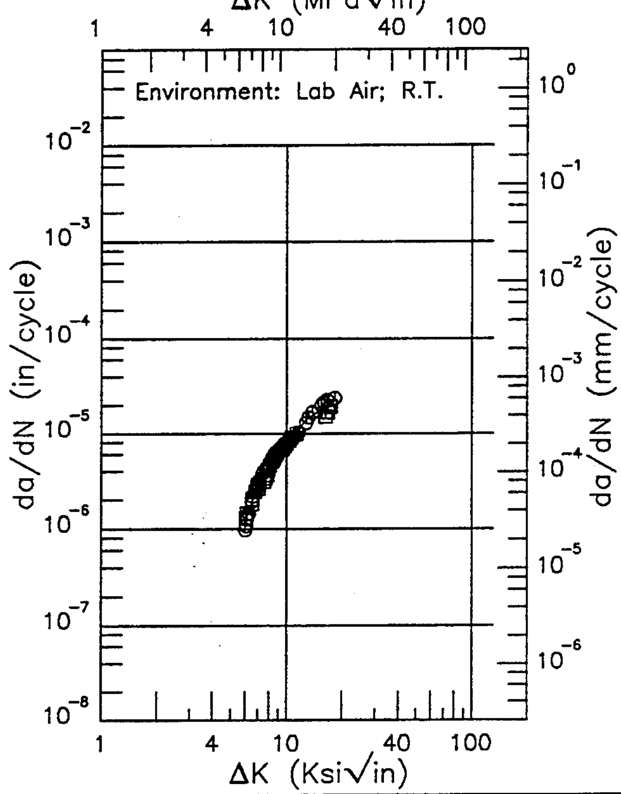
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.9.3.1.109

Condition/Ht: T73511–LOW PURITY
Form: 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.1
Frequency: 30 Hz

Yield Strength: 65.3 ksi
Ult. Strength: 73.9 ksi
Specimen Thk: 0.625 in.
Specimen Width: 2.55 in.
Ref: WA001

(1 of 2)



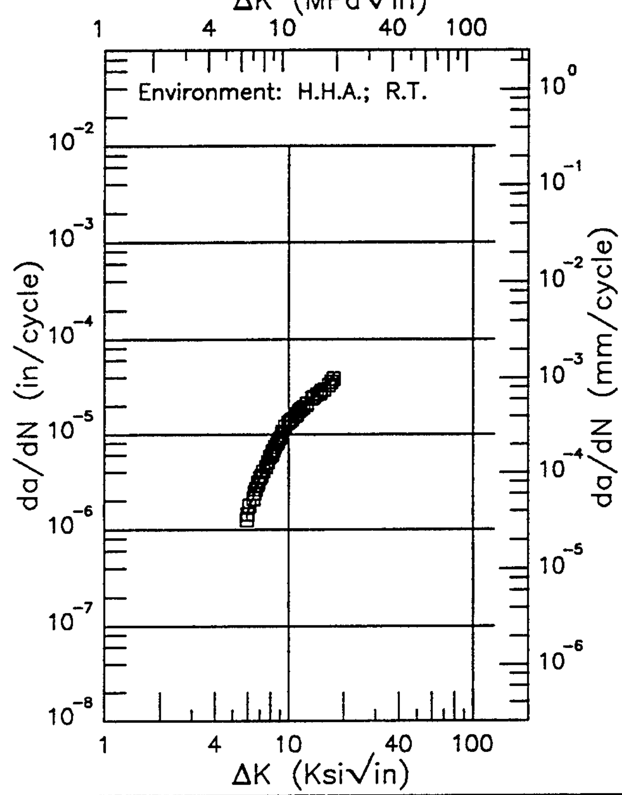
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.97 (min)	1.14
6.	1.18
7.	2.74
8.	4.61
9.	6.35
10.	7.80
13.	14.4
16.	18.7
18.14 (max)	23.2

RMS % Error 8.65

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.93 (min)	1.37
6.	1.47
7.	3.33
8.	6.03
9.	9.34
10.	12.9
13.	22.5
16.	31.1
17.59 (max)	37.9

RMS % Error 2.77

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.9.3.1.110

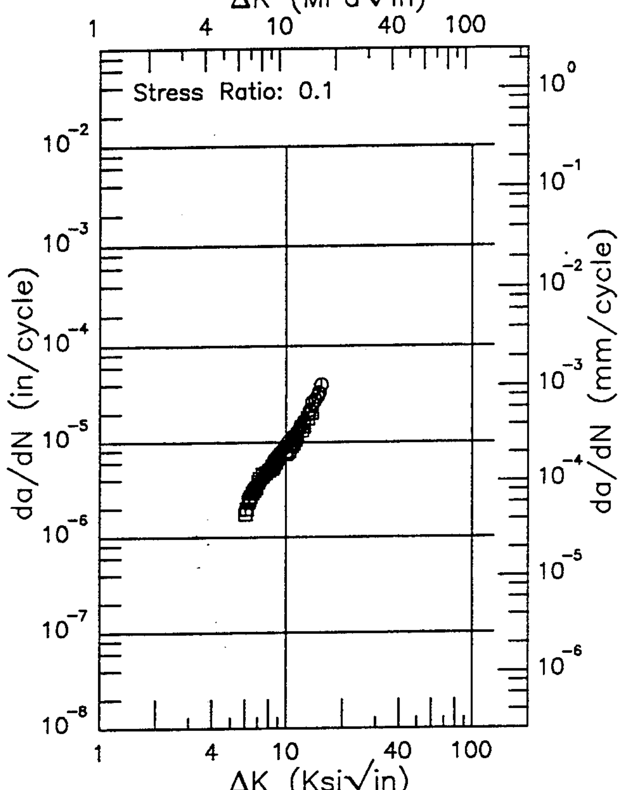
7075

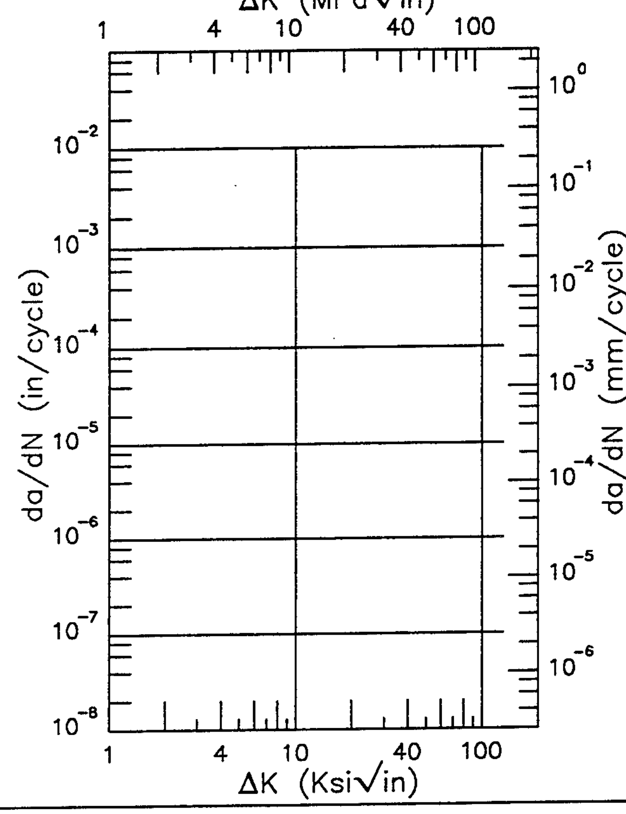
R

Condition/Ht: T73511–LOW PURITY
Form: 1.5 in. Extrusion
Specimen Type: CT
Orientation: T–L
Frequency: 30 Hz
Environment: LAB AIR; RT

Yield Strength: 60.9 ksi
Ult. Strength: 70.2 ksi
Specimen Thk: 0.625 in.
Specimen Width: 2.55 in.
Ref: WA001

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.02 (min)	1.92
7.	3.55
8.	5.15
9.	6.74
10.	8.52
13.	18.5
15.36 (max)	38.0

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
6.92	0. .5 .8 1.25 2.

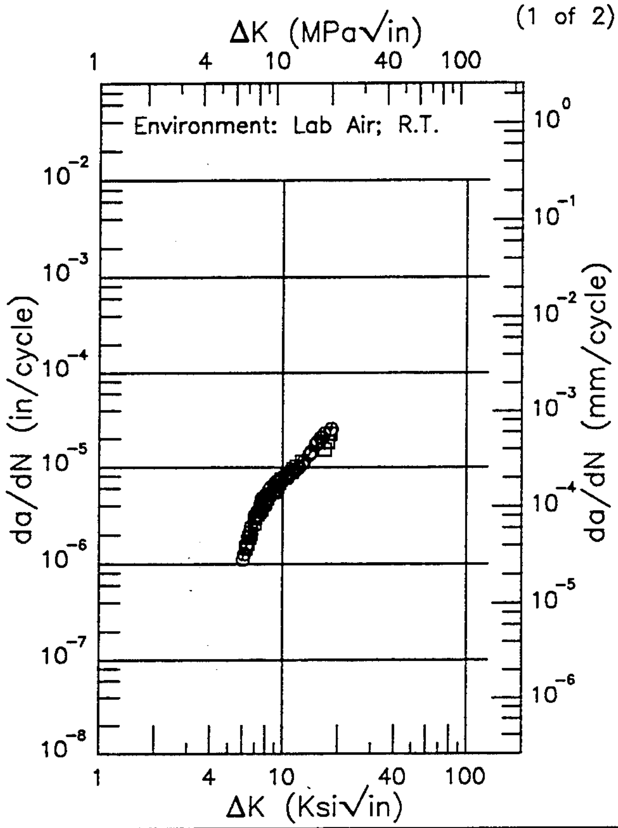
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.9.3.1.111

Condition/Ht: T73511–MEDIUM PURITY
Form: 1.5 in. Extrusion
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.1
Frequency: 30 Hz

Yield Strength: 68.4 ksi
Ult. Strength: 77 ksi
Specimen Thk: 0.625 in.
Specimen Width: 2.55 in.
Ref: WA001

(1 of 2)



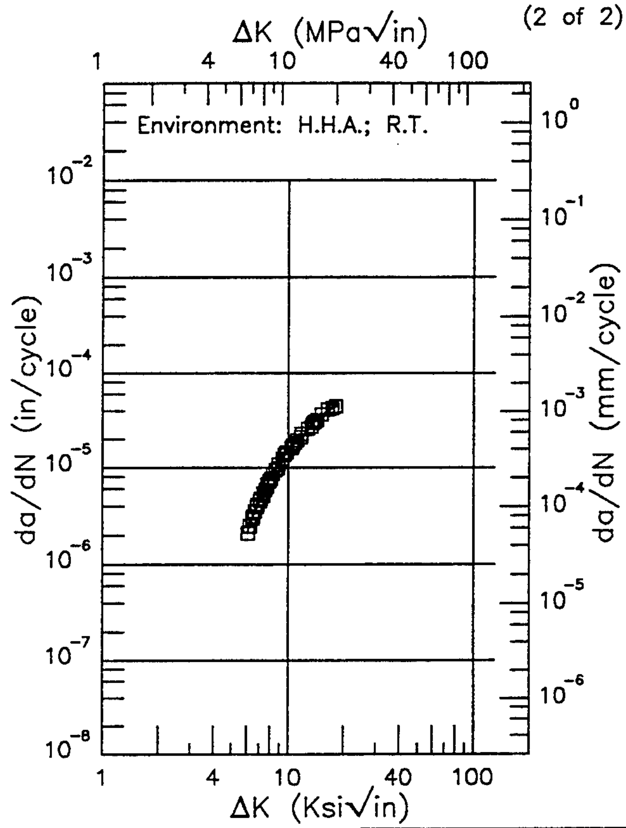
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.01 (min)	1.11
7.	2.83
8.	4.75
9.	6.32
10.	7.46
13.	11.9
16.	18.4
18.26 (max)	21.7

RMS % Error 8.03

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.06 (min)	2.17
7.	4.36
8.	7.46
9.	11.1
10.	14.9
13.	26.4
16.	38.8
18.09 (max)	43.4

RMS % Error 2.79

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

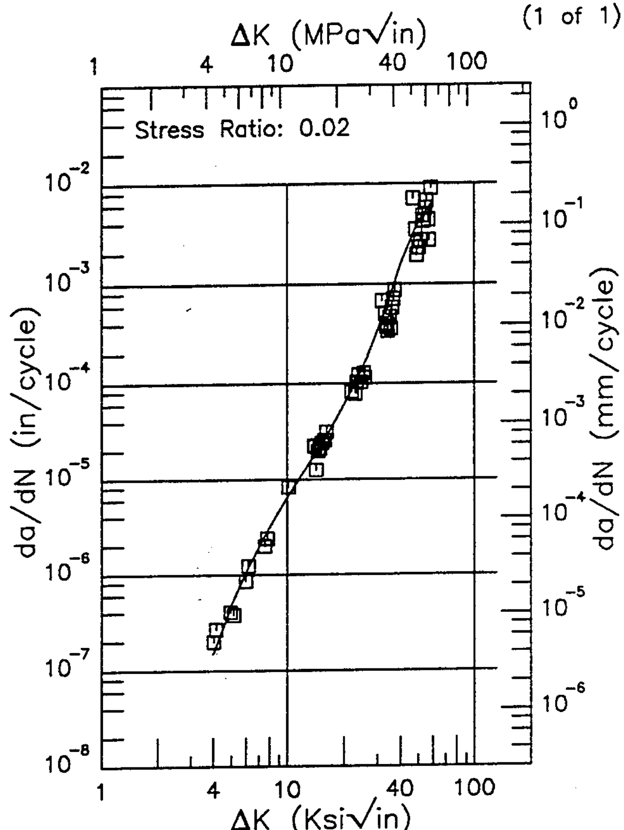
Figure 8.9.3.1.112

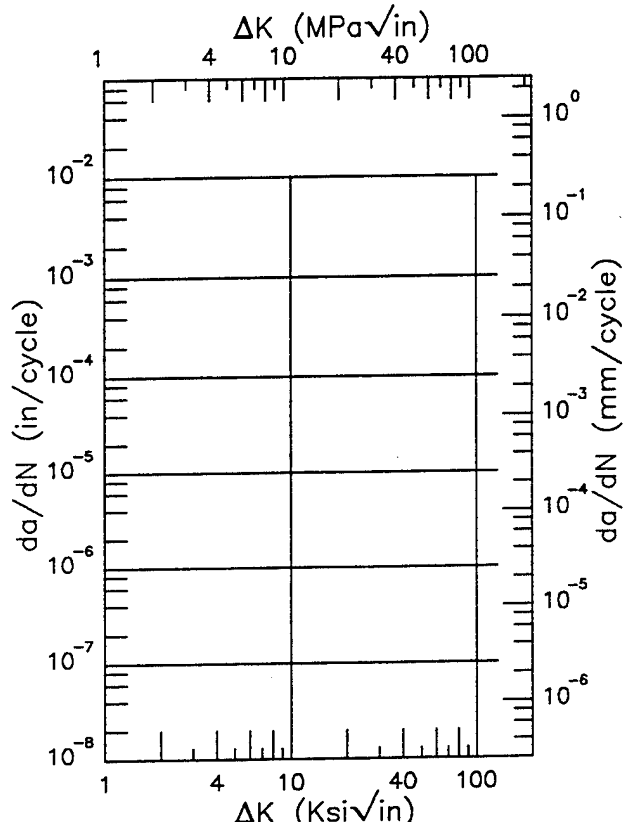
R 7075

Condition/Ht: T7352
Form: 2.2 in. Plate
Specimen Type: CCP (max stress specified)
Orientation: T–L
Frequency:
Environment: LAB AIR; RT

Yield Strength: 55 ksi
Ult. Strength: 66 ksi
Specimen Thk: 0.156 in.
Specimen Width:
Ref: MA012

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.00 (min)	0.149
5.	0.477
6.	1.07
7.	1.94
8.	3.12
9.	4.61
10.	6.44
13.	14.5
16.	27.8
20.	60.0
25.	145.
30.	336.
35.	751.
40.	1528.
50.	4143.
58.14 (max)	6102.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
34.94	0. .5 .8 1.25 2.

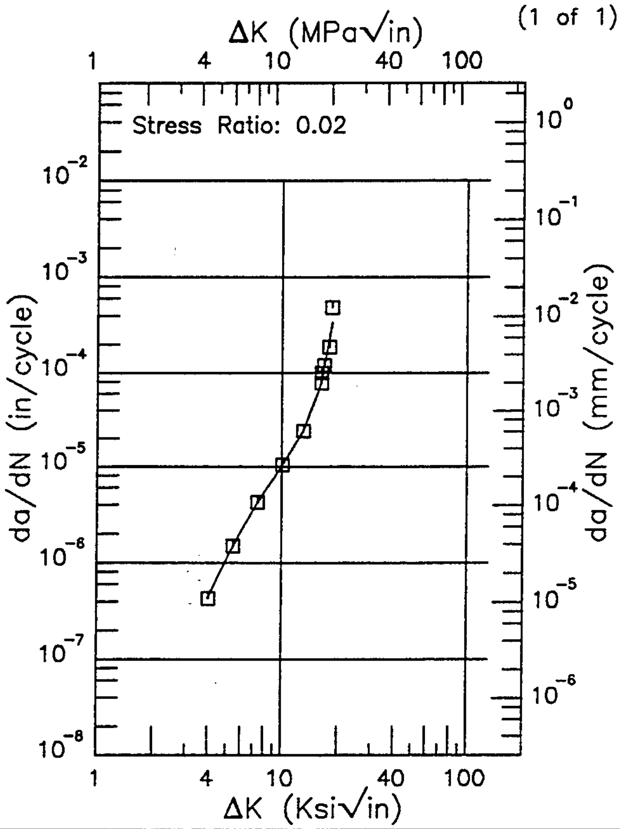
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

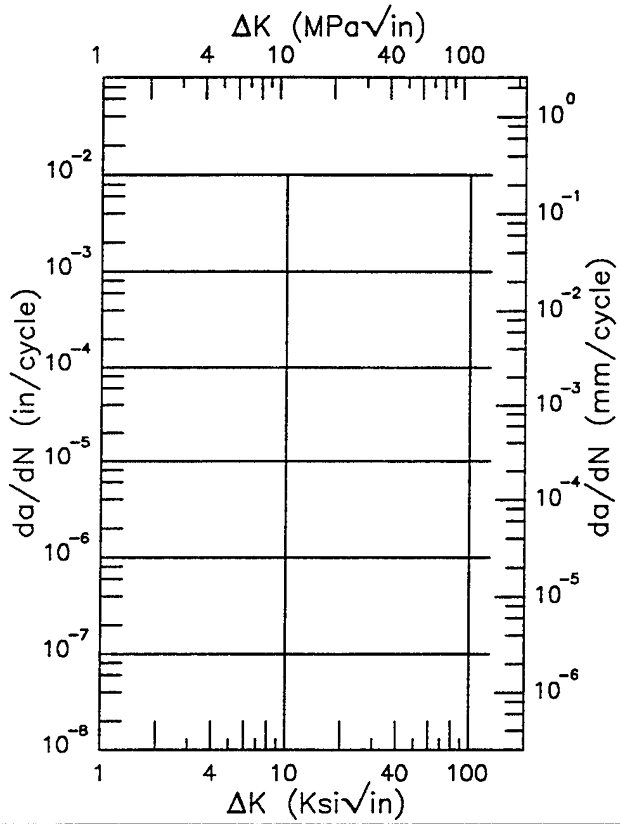
Figure 8.9.3.1.113

Condition/Ht: T7352
Form: 2.2 in. Plate
Specimen Type: WOL
Orientation: T-L
Frequency:
Environment: LAB AIR; RT

Yield Strength: 55 ksi
Ult. Strength: 66 ksi
Specimen Thk: 1.25 in.
Specimen Width:
Ref: MA012

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
3.98 (min)	0.426
4.	0.435
5.	1.08
6.	2.10
7.	3.51
8.	5.31
9.	7.52
10.	10.2
13.	23.7
16.	72.9
18.35 (max)	342.

ΔK (Ksi√in) da/dN (10^{-6} in/cycle)

RMS % Error	Life Prediction Ratio Summary
16.33	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

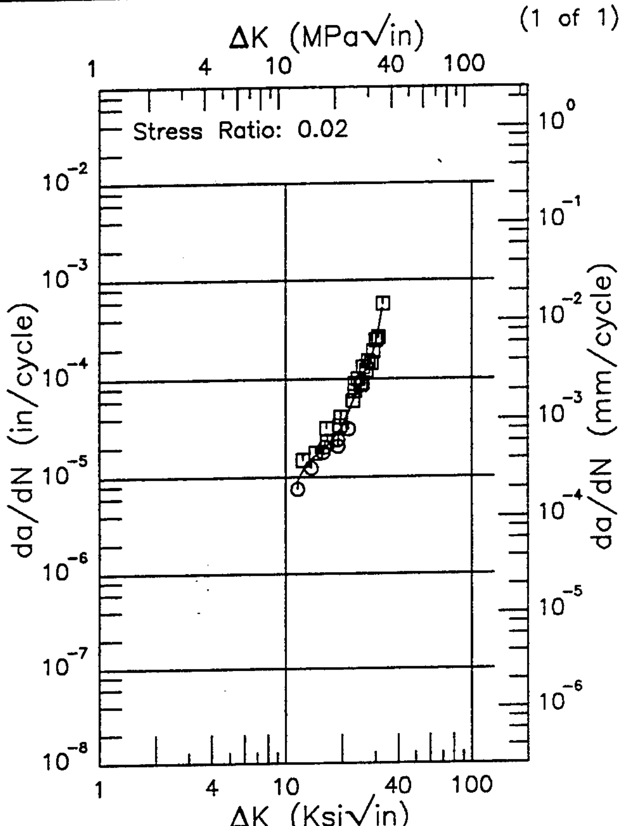
Figure 8.9.3.1.114

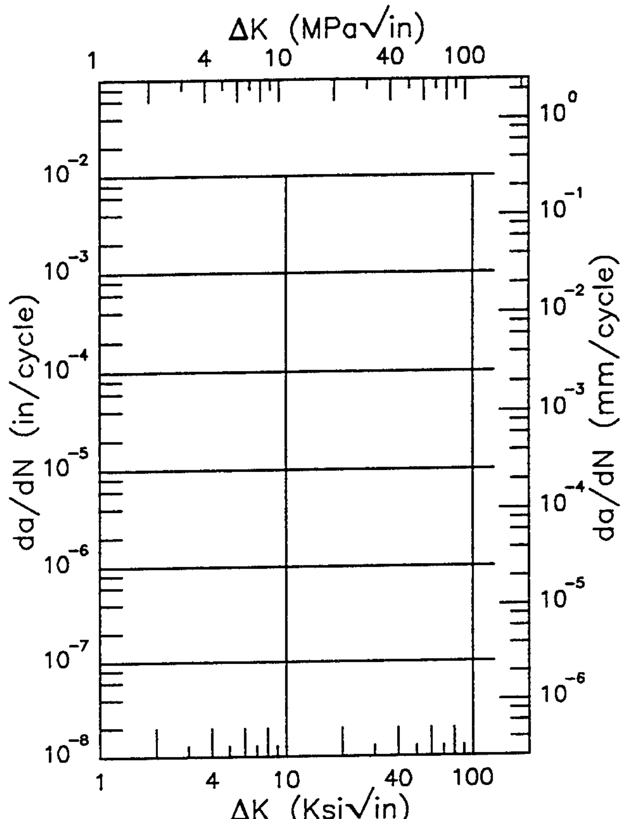
R 7075

Condition/Ht: T7352
Form: 2.35 in. Billet
Specimen Type: WOL
Orientation: L–T
Frequency: 1 – 30 Hz
Environment: LAB AIR; RT

Yield Strength: 54.5 ksi
Ult. Strength: 65.5 ksi
Specimen Thk: 1.25 in.
Specimen Width: 5 in.
Ref: MA011

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
11.52 (min)	8.94
13.	14.2
16.	19.2
20.	32.8
25.	92.6
30.	223.
32.74 (max)	519.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error 20.37

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

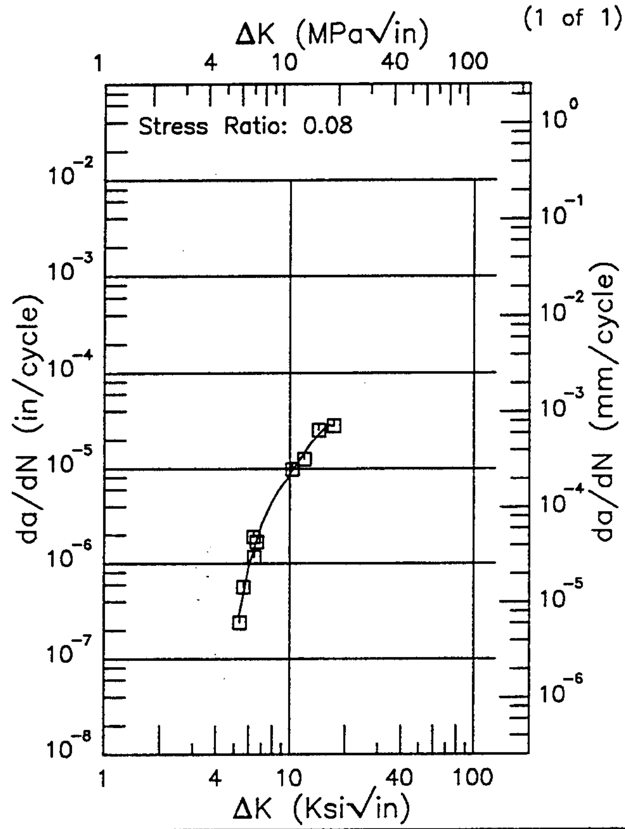
0. .5 .8 1.25 2.

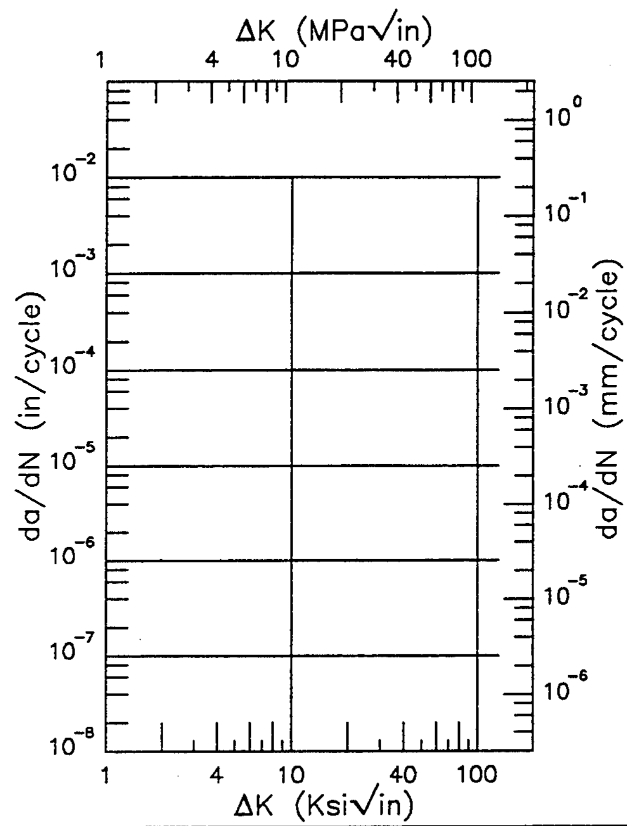
Figure 8.9.3.1.115

Condition/Ht: T7352
Form: Forging
Specimen Type: CT
Orientation: L-T
Frequency: 6 Hz
Environment: L.H.A.; RT

Yield Strength: 67 ksi
Ult. Strength: 75 ksi
Specimen Thk: 0.5 in.
Specimen Width: 3 in.
Ref: 88579

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.33 (min)	0.293
6.	0.915
7.	2.54
8.	4.54
9.	6.56
10.	8.65
13.	18.6
16.	28.5
17.25 (max)	27.9

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
18.66	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

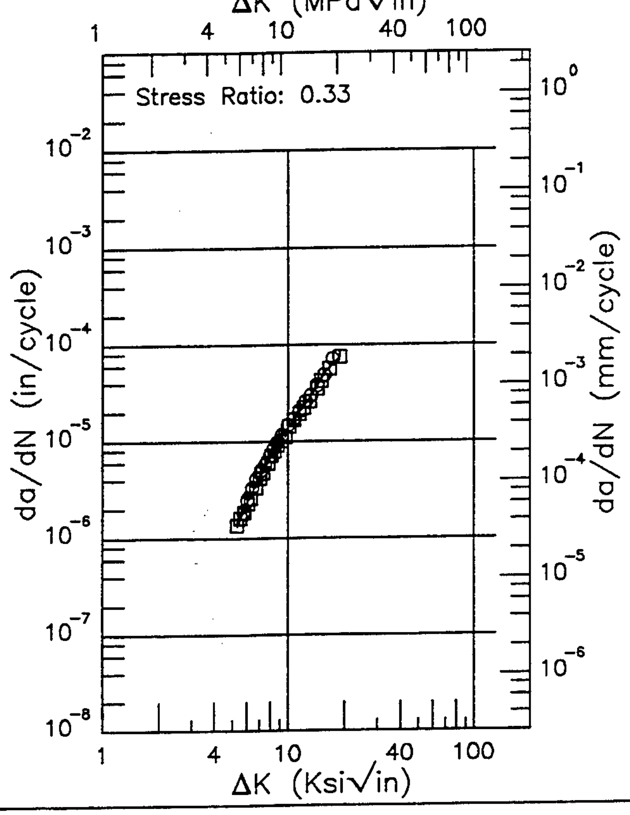
Figure 8.9.3.1.116

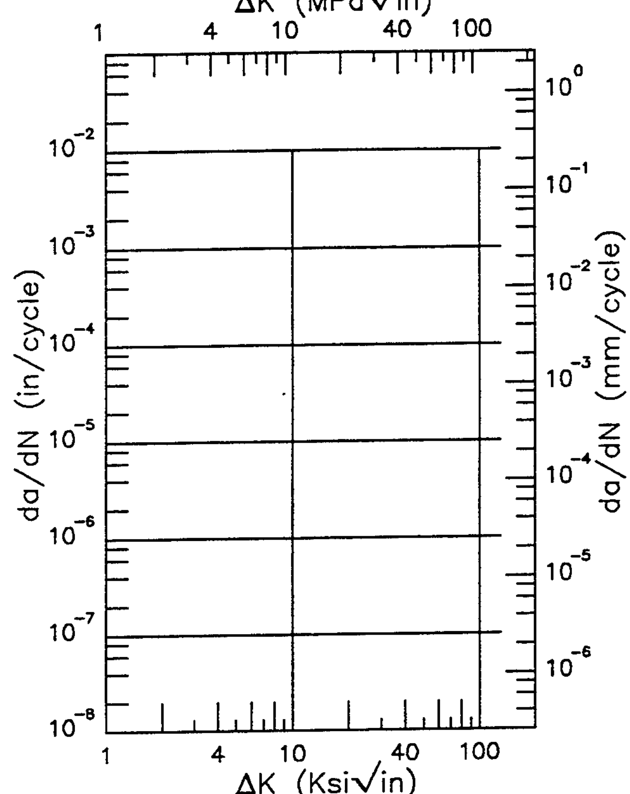
R 7075

Condition/Ht: T7352
Form: 6 in. Forging
Specimen Type: CCP (max load specified)
Orientation: L–T
Frequency: 5.2 Hz
Environment: LAB AIR; RT

Yield Strength:
Ult. Strength:
Specimen Thk: 0.75 in.
Specimen Width: 3 in.
Ref: 77720

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.32 (min)	1.32
6.	2.25
7.	4.21
8.	6.86
9.	10.1
10.	13.7
13.	27.6
16.	54.0
18.81 (max)	74.9

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
5.96	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.9.3.1.117

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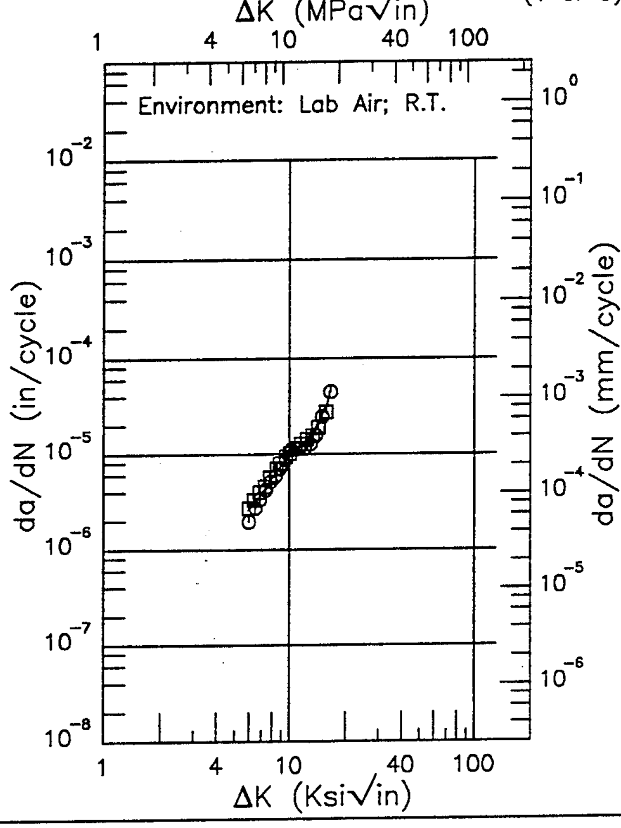
E 7075

Condition/Ht: T7352
Form: 6 in. Forging
Specimen Type: CCP (max load specified)
Orientation: T-S
Stress Ratio: 0.33
Frequency: 5.2 Hz

Yield Strength:
Ult. Strength:
Specimen Thk: 0.73 - 0.75 in.
Specimen Width: 3 in.
Ref: 77720

(1 of 3)



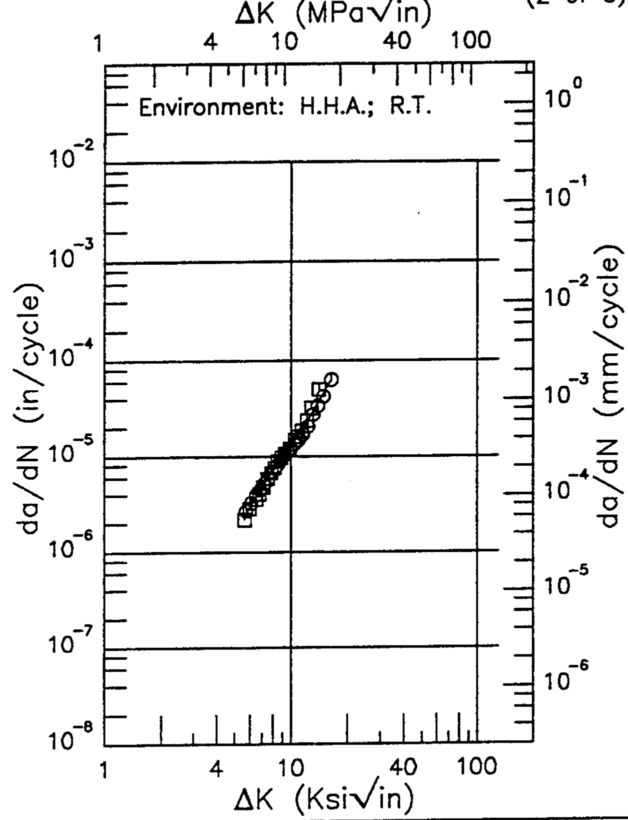
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.97 (min)	2.60
6.	2.63
7.	3.82
8.	5.53
9.	7.61
10.	9.75
13.	14.2
16.	34.2
16.54 (max)	45.6

RMS % Error 9.03

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.62 (min)	2.29
6.	2.94
7.	4.85
8.	7.00
9.	9.48
10.	12.5
13.	28.3
16.	57.4
16.40 (max)	62.2

RMS % Error 8.11

Life Prediction Ratio Summary

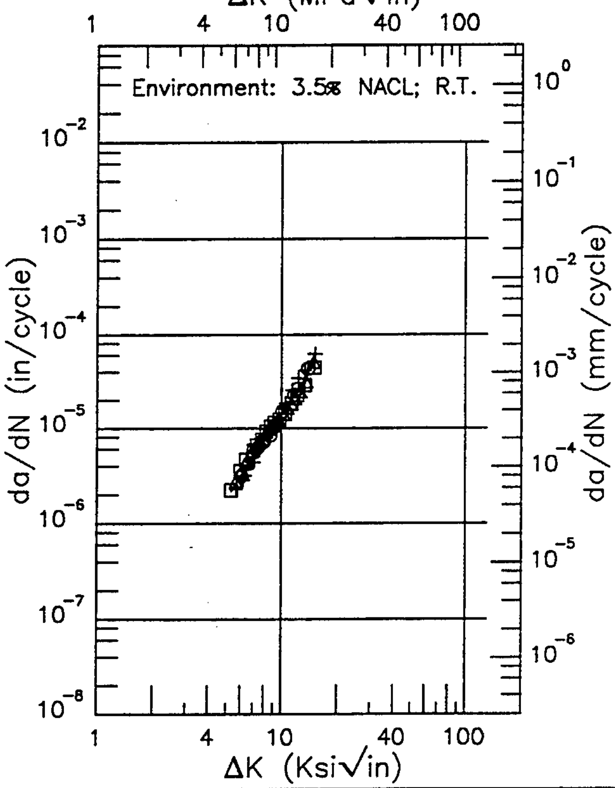
0. .5 .8 1.25 2.

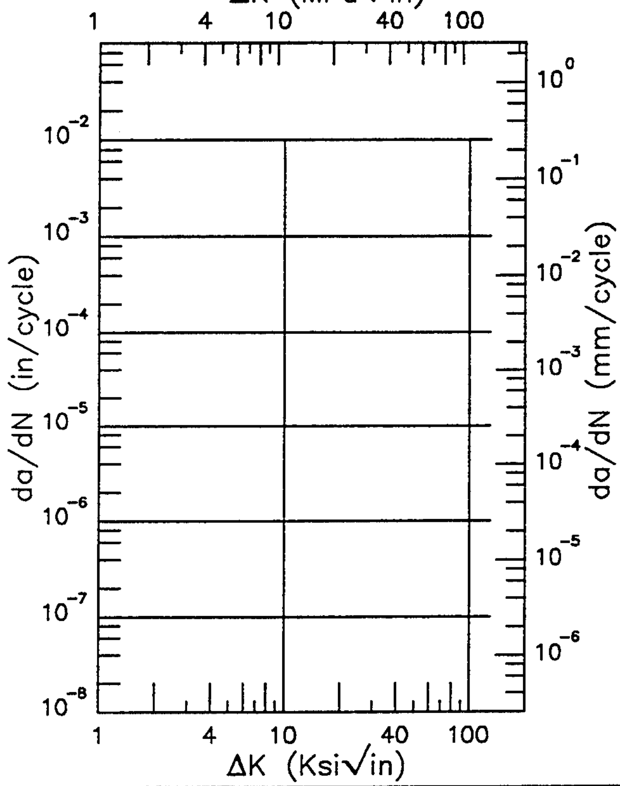
Figure 8.9.3.1.118

Condition/Ht: T7352
Form: 6 in. Forging
Specimen Type: CCP (max load specified)
Orientation: T−S
Stress Ratio: 0.33
Frequency: 5.2 Hz

Yield Strength:
Ult. Strength:
Specimen Thk: 0.73 − 0.75 in.
Specimen Width: 3 in.
Ref: 77720

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.32 (min)	2.15
6.	3.13
7.	5.25
8.	7.88
9.	10.6
10.	13.8
13.	30.8
15.03 (max)	53.1

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
11.35	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

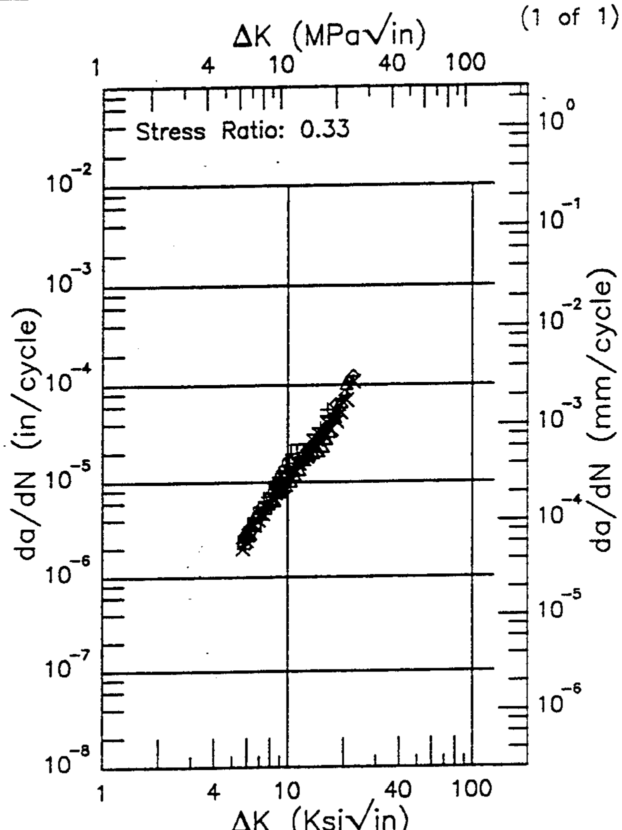
Figure 8.9.3.1.118 (Concluded)

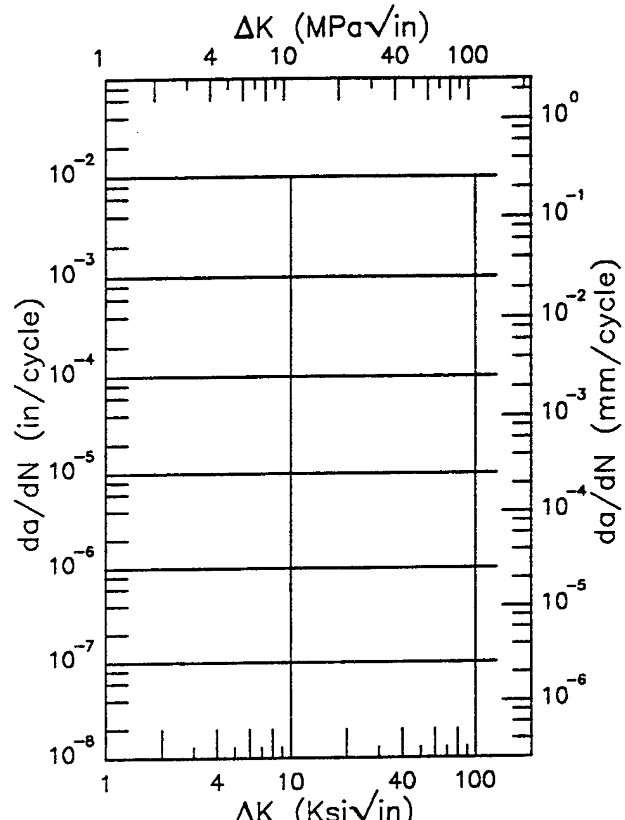
7075

R

Condition/Ht: T7352	Yield Strength:
Form: 6 in. Forging	Ult. Strength:
Specimen Type: CCP (max load specified)	Specimen Thk: 0.75 – 0.76 in.
Orientation: T–L	Specimen Width: 3 in.
Frequency: 5.2 Hz	Ref: 77720
Environment: LAB AIR; RT	

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.69 (min)	2.17
6.	2.62
7.	4.34
8.	6.43
9.	8.80
10.	11.4
13.	20.4
16.	34.0
20.	65.5
22.72 (max)	125.

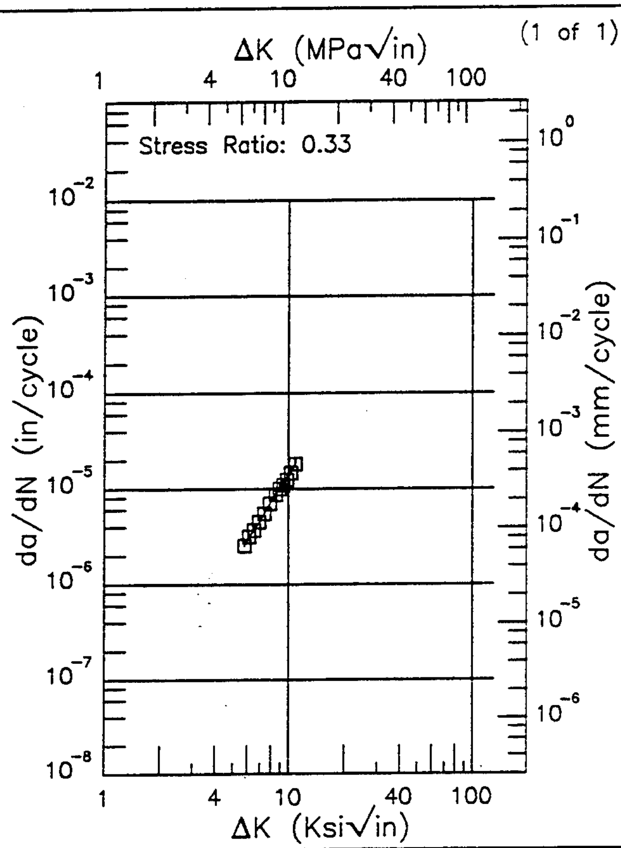
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

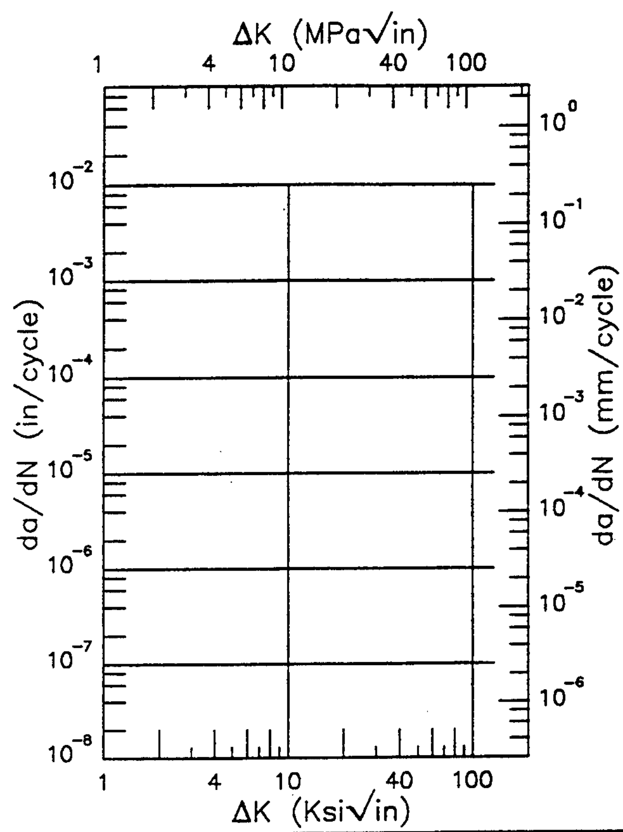
RMS % Error	Life Prediction Ratio Summary	RMS % Error	Life Prediction Ratio Summary
13.41	0. .5 .8 1.25 2.		0. .5 .8 1.25 2.

Figure 8.9.3.1.119

Condition/Ht: T7352
Form: 6 in. Forging
Specimen Type: CCP (max load specified)
Orientation: S-T
Frequency: 5.2 Hz
Environment: LAB AIR; RT

Yield Strength:
Ult. Strength:
Specimen Thk: 0.75 in.
Specimen Width: 3 in.
Ref: 77720



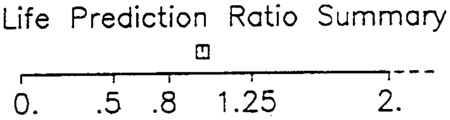


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.78 (min)	2.52
6.	2.89
7.	4.56
8.	7.23
9.	10.0
10.	13.3
10.85 (max)	18.0

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error 1.20

Life Prediction Ratio Summary



RMS % Error

Life Prediction Ratio Summary

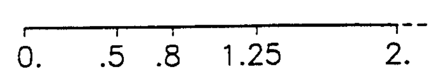


Figure 8.9.3.1.120

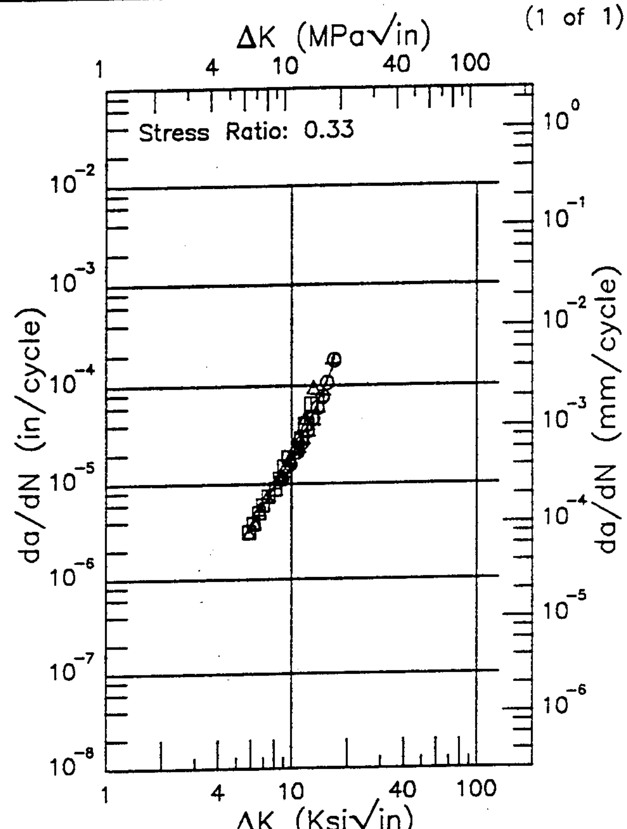
7075

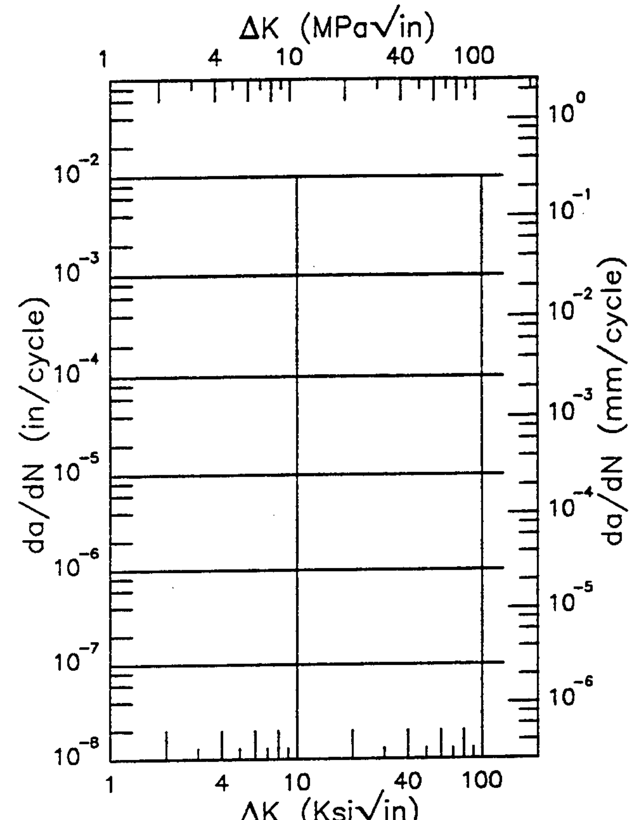
R

Condition/Ht: T7352
Form: 6 in. Forging
Specimen Type: CCP (max load specified)
Orientation: S–L
Frequency: 5.2 Hz
Environment: LAB AIR; RT

Yield Strength:
Ult. Strength:
Specimen Thk: 0.75 in.
Specimen Width: 3 in.
Ref: 77720

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.82 (min)	3.15
6.	3.52
7.	6.01
8.	9.33
9.	13.7
10.	19.5
13.	51.3
16.	130.
16.82 (max)	168.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
18.54

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

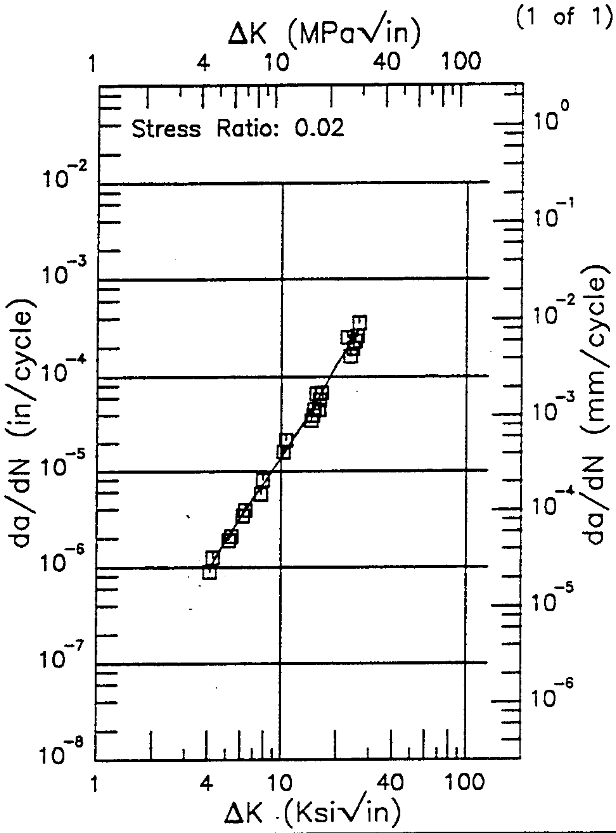
0. .5 .8 1.25 2.

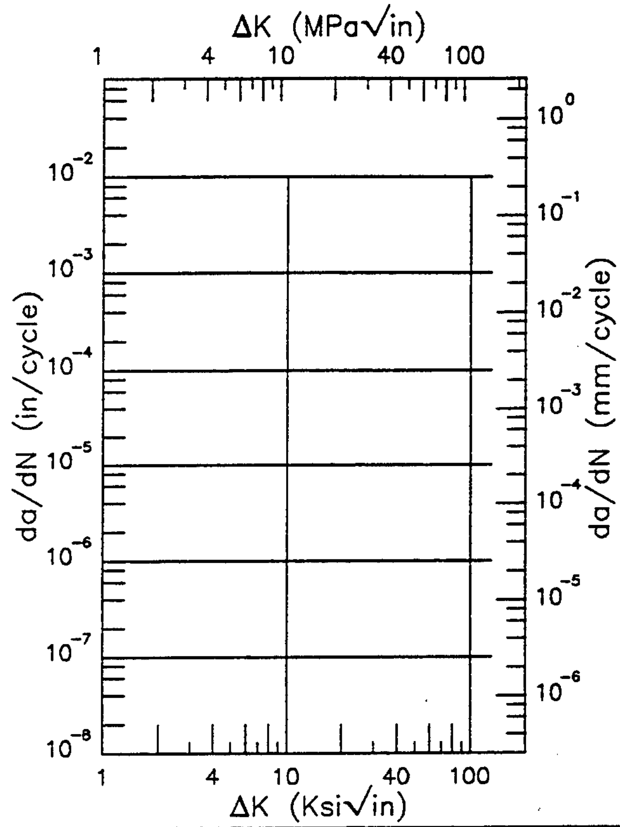
Figure 8.9.3.1.121

Condition/Ht: T7352
Form: Forging
Specimen Type: CCP (max stress specified)
Orientation: T–L
Frequency:
Environment: LAB AIR; RT

Yield Strength: 57 ksi
Ult. Strength: 70 ksi
Specimen Thk: 0.149 in.
Specimen Width:
Ref: MA012

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.10 (min)	0.966
5.	1.88
6.	3.28
7.	5.13
8.	7.49
9.	10.4
10.	14.1
13.	30.8
16.	60.9
20.	133.
25.	271.
26.38 (max)	314.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
16.34	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

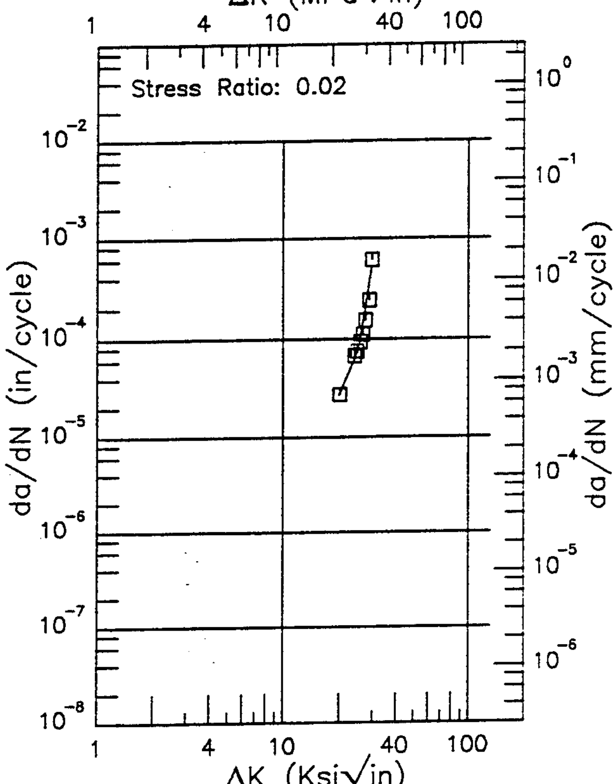
Figure 8.9.3.1.122

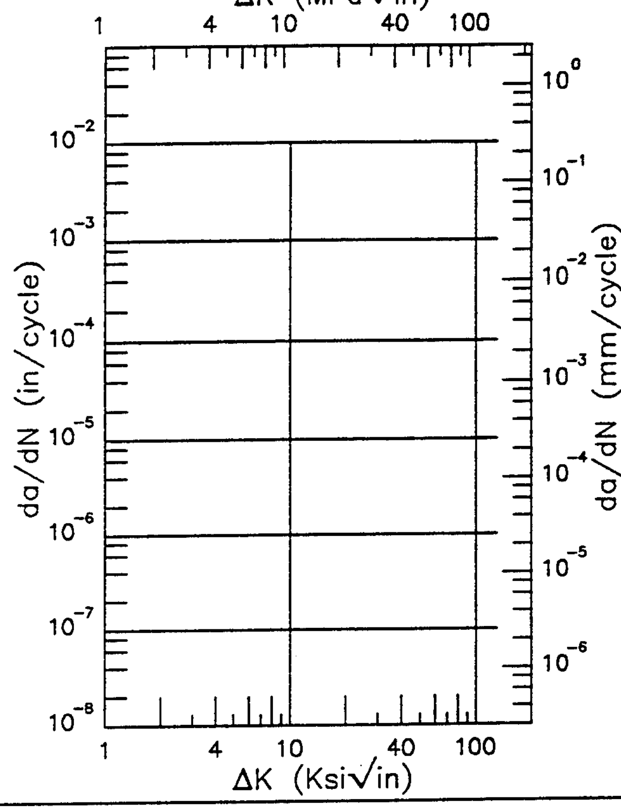
R 7075

Condition/Ht: T7352
Form: Forging
Specimen Type: WOL
Orientation: T-L
Frequency:
Environment: LAB AIR; RT

Yield Strength: 57 ksi
Ult. Strength: 70 ksi
Specimen Thk: 1.25 in.
Specimen Width:
Ref: MA012

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
19.98 (min)	27.2
20.	27.5
25.	77.4
29.54 (max)	509.

ΔK (Ksi√in) da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
20.55	0. .5 .8 1.25 2.

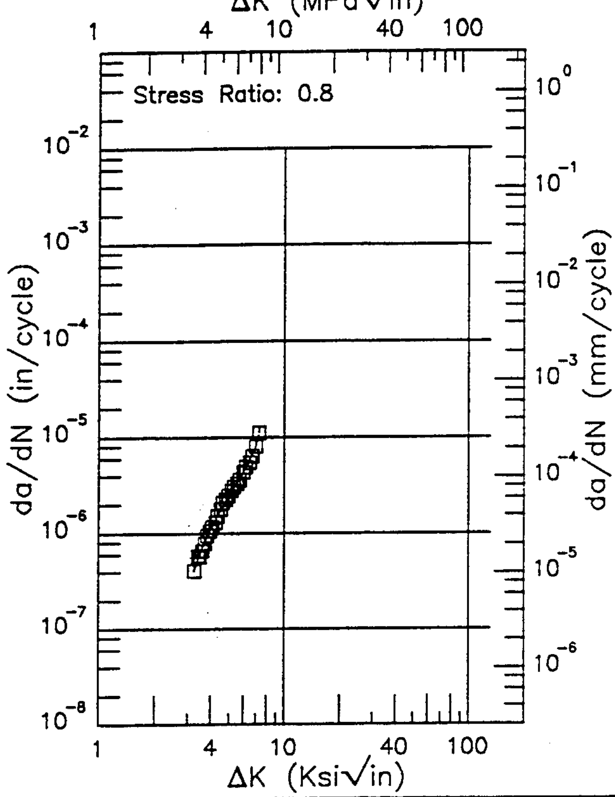
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

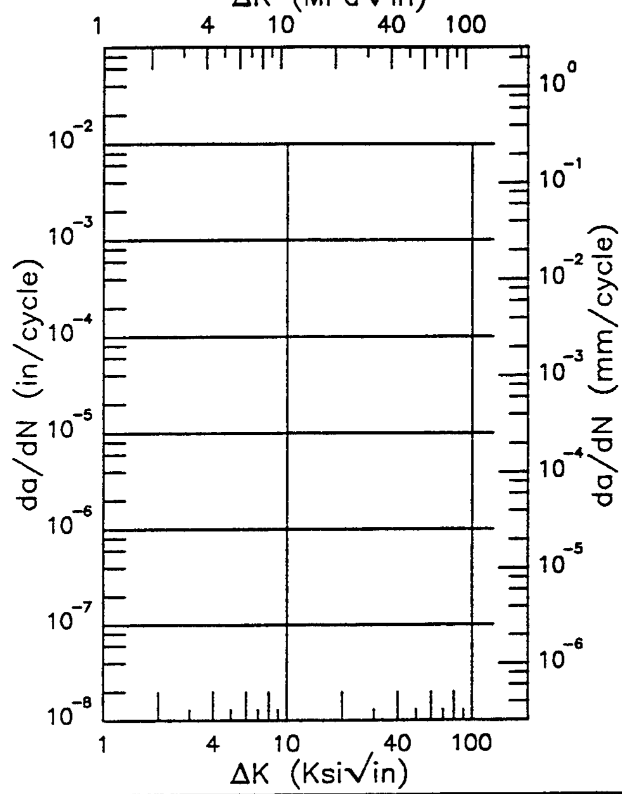
Figure 8.9.3.1.123

Condition/Ht: T74
Form:
Specimen Type: CT
Orientation: L-T
Frequency: 20 Hz
Environment: LAB AIR; RT

Yield Strength: 61.9 ksi
Ult. Strength:
Specimen Thk: 0.498 in.
Specimen Width: 2 in.
Ref: SW001

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.25 (min)	0.410
3.5	0.610
4.	1.11
5.	2.53
6.	4.28
7.	8.32
7.24 (max)	10.7

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
3.99

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

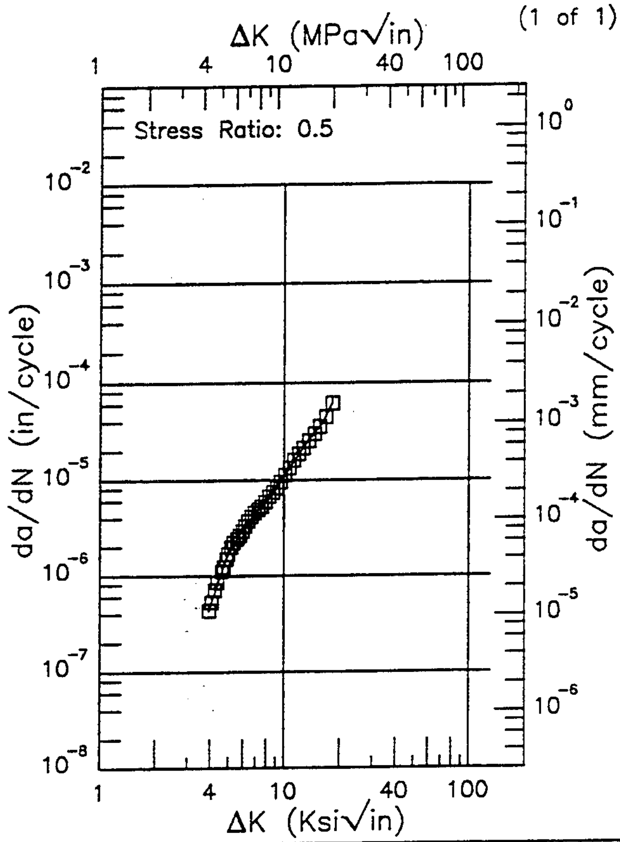
Figure 8.9.3.1.124

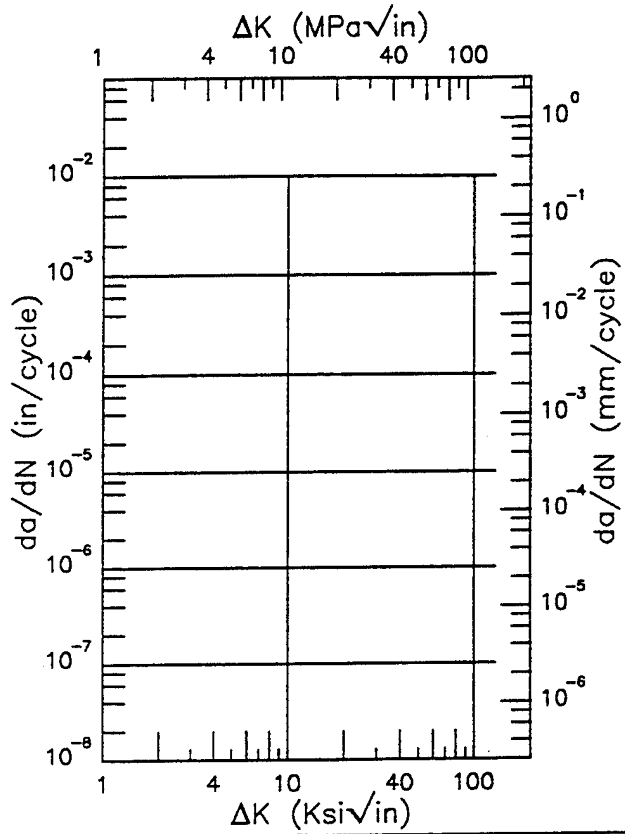
R 7075

Condition/Ht: T74511
Form: 1 in. Extrusion
Specimen Type: CT
Orientation: L–T
Frequency: 0.5 Hz
Environment: LAB AIR; RT

Yield Strength: 77 ksi
Ult. Strength:
Specimen Thk: 0.323 in.
Specimen Width: 2 in.
Ref: SW001

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.94 (min)	0.431
4.	0.477
5.	1.65
6.	3.08
7.	4.50
8.	6.06
9.	8.09
10.	10.9
13.	22.9
16.	38.1
18.20 (max)	61.6

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
3.34

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.9.3.1.125

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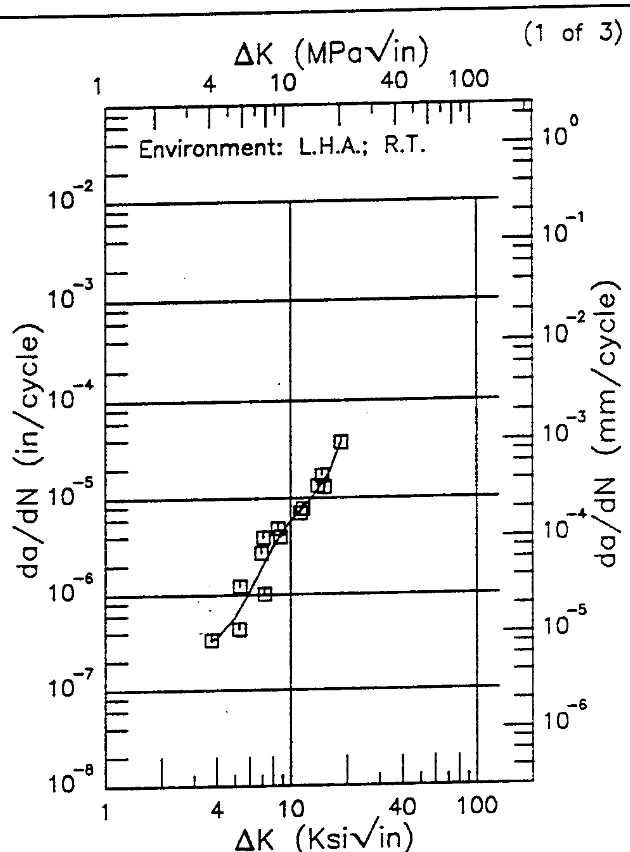
E 7075

Condition/Ht: T76
Form: 0.1 in. Sheet
Specimen Type: CCP (max load specified)
Orientation: L–T
Stress Ratio: 0.08
Frequency: 1 Hz

Yield Strength:
Ult. Strength:
Specimen Thk: 0.099 in.
Specimen Width: 23.8 – 23.85 in.
Ref: 86575

(1 of 3)

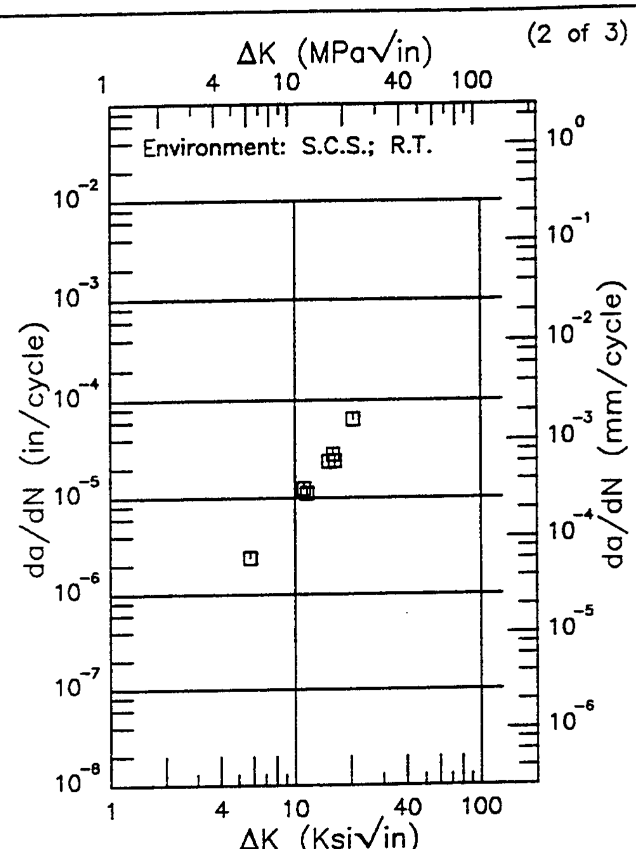


ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
3.71 (min)	0.332
4.	0.352
5.	0.577
6.	1.08
7.	1.94
8.	3.13
9.	4.48
10.	5.83
13.	10.2
16.	18.2
18.43 (max)	36.8

RMS % Error: 38.86

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

(2 of 3)



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error

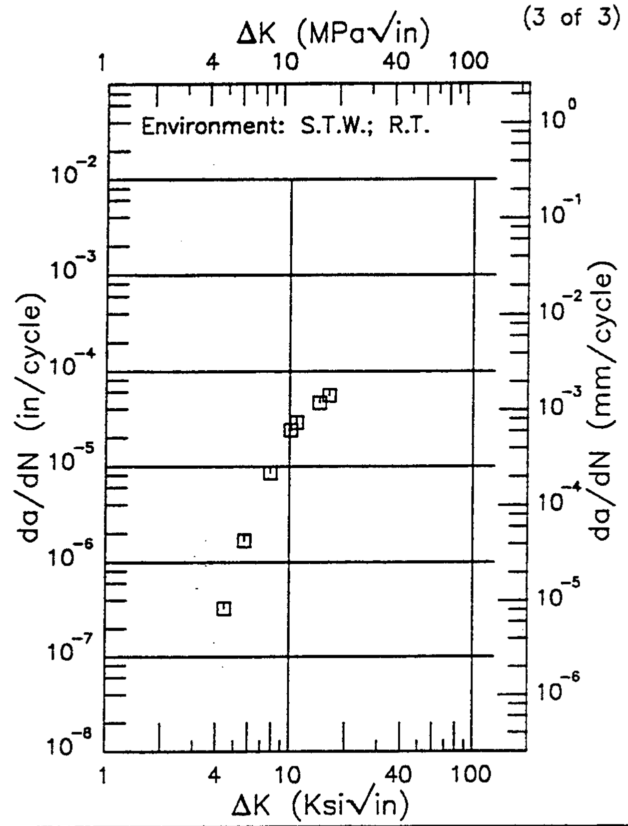
Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

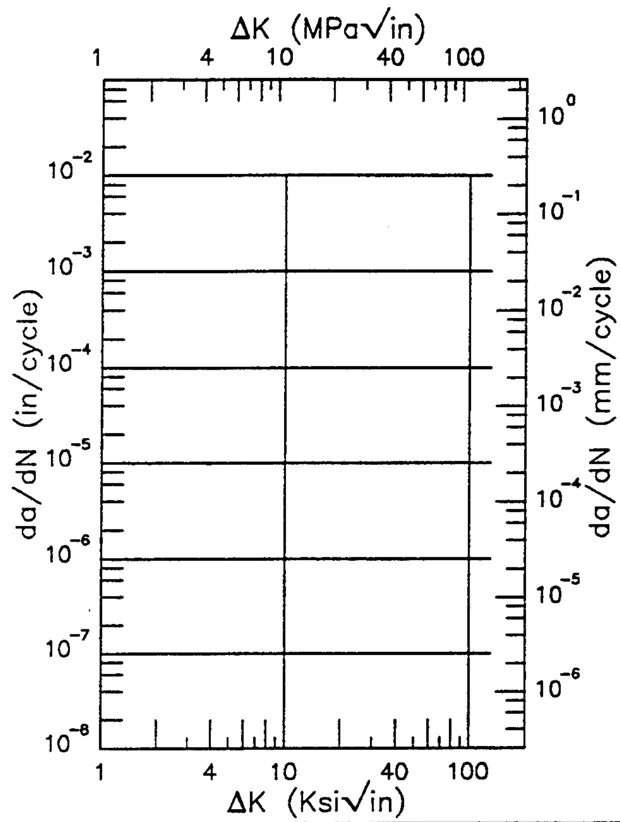
Figure 8.9.3.1.126

Condition/Ht: T76
Form: 0.1 in. Sheet
Specimen Type: CCP (max load specified)
Orientation: L–T
Stress Ratio: 0.08
Frequency: 1 Hz

Yield Strength:
Ult. Strength:
Specimen Thk: 0.099 in.
Specimen Width: 23.8 – 23.85 in.
Ref: 86575

(3 of 3)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)	ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

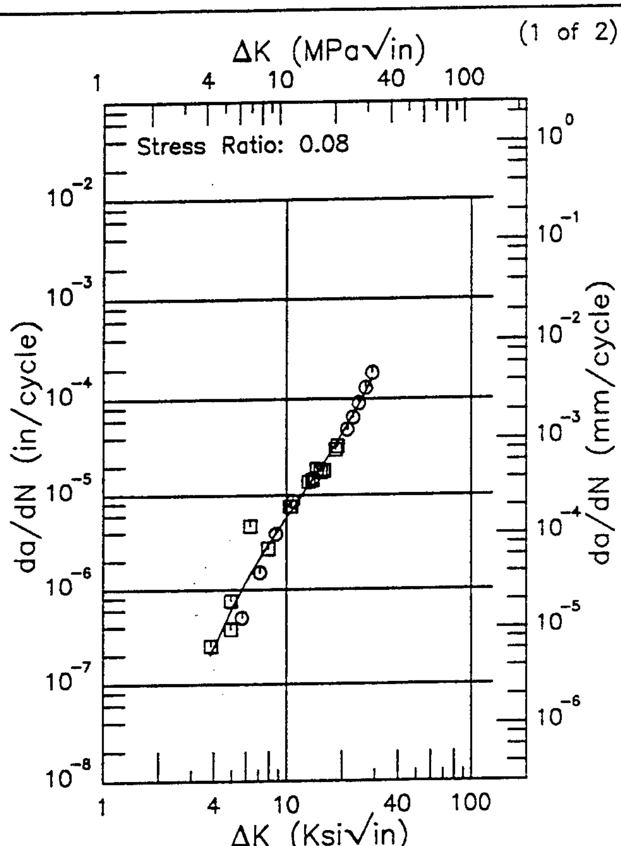
RMS % Error	Life Prediction Ratio Summary	RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.		0. .5 .8 1.25 2.

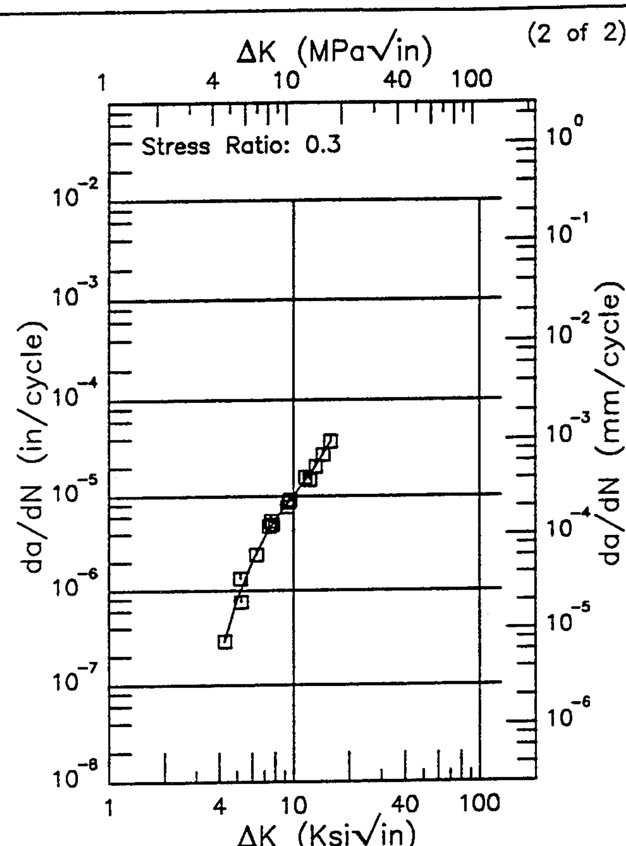
Figure 8.9.3.1.126 (Concluded)

R 7075

Condition/Ht: T76
Form: 0.1 in. Sheet
Specimen Type: CCP (max load specified)
Orientation: L-T
Frequency: 6 Hz
Environment: L.H.A.; RT

Yield Strength:
Ult. Strength:
Specimen Thk: 0.098 – 0.099 in.
Specimen Width: 23.79 – 23.84 in.
Ref: 86575



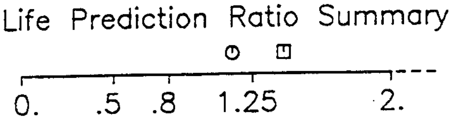


ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
3.85 (min)	0.203
4.	0.242
5.	0.615
6.	1.20
7.	2.01
8.	3.05
9.	4.33
10.	5.87
13.	12.3
16.	22.3
20.	43.8
25.	92.7
28.99 (max)	161.

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
4.26 (min)	0.283
5.	0.799
6.	1.99
7.	3.63
8.	5.56
9.	7.71
10.	10.1
13.	19.8
15.89 (max)	36.7

RMS % Error 49.93

Life Prediction Ratio Summary



RMS % Error 13.12

Life Prediction Ratio Summary

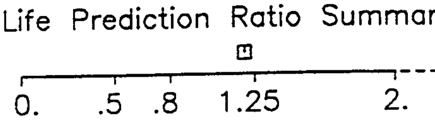
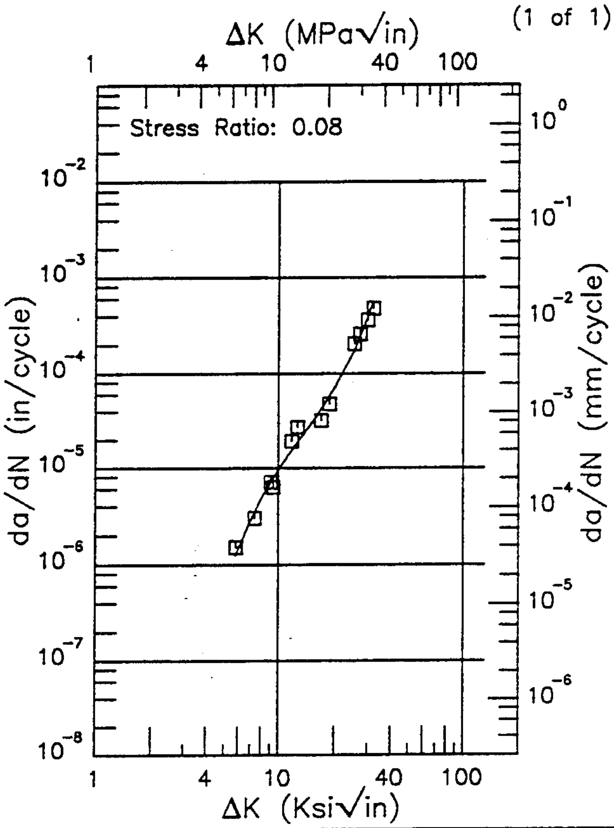


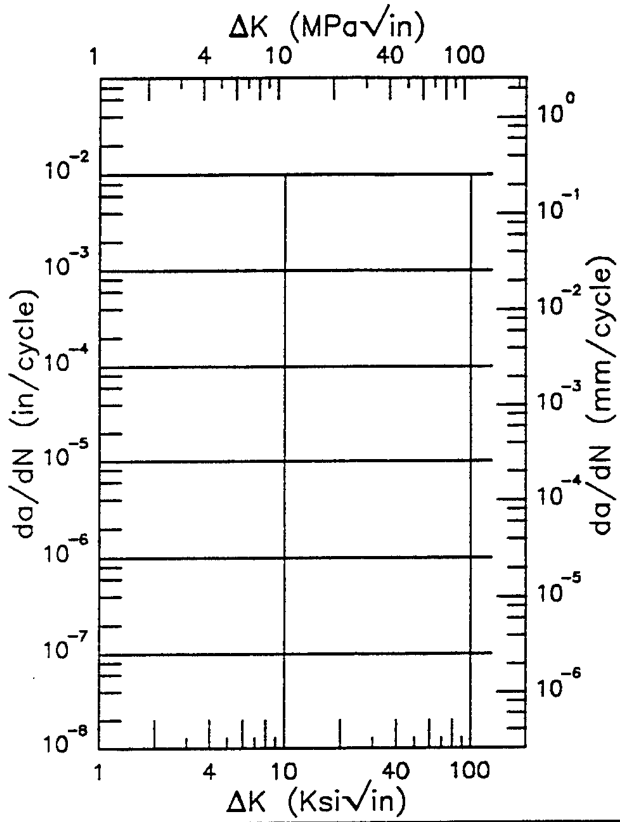
Figure 8.9.3.1.127

Condition/Ht: T76
Form: 0.1 in. Sheet
Specimen Type: CCP (max load specified)
Orientation: T–L
Frequency: 6 Hz
Environment: L.H.A.; RT

Yield Strength: 66 ksi
Ult. Strength: 77 ksi
Specimen Thk: 0.099 in.
Specimen Width: 23.79 in.
Ref: 86575

(1 of 1)



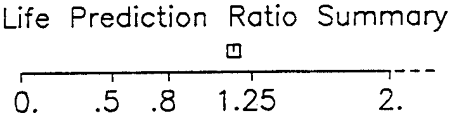


ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
5.80 (min)	1.23
6.	1.45
7.	2.86
8.	4.73
9.	7.01
10.	9.67
13.	20.1
16.	35.7
20.	71.4
25.	166.
30.	391.
32.04 (max)	558.

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error
20.94

Life Prediction Ratio Summary



RMS % Error

Life Prediction Ratio Summary

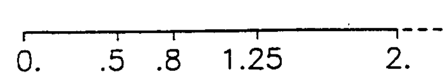
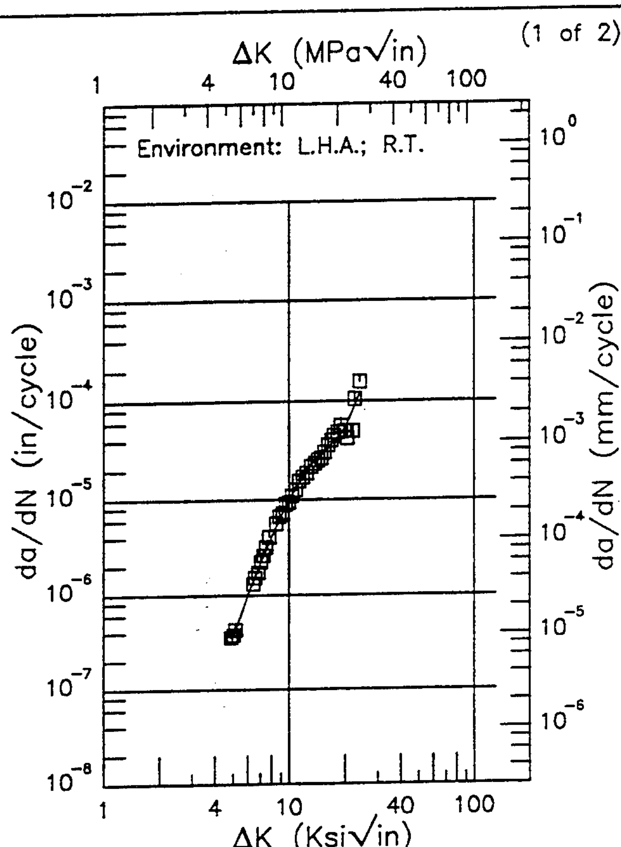


Figure 8.9.3.1.128

E | 7075

Condition/Ht: T7651	Yield Strength: 64.7 ksi
Form: 2 in. Plate	Ult. Strength: 75.5 ksi
Specimen Type: CT	Specimen Thk: 0.813 – 0.814 in.
Orientation: L–T	Specimen Width: 6 in.
Stress Ratio: 0.08	Ref: 85837
Frequency: 1 Hz	

(1 of 2)



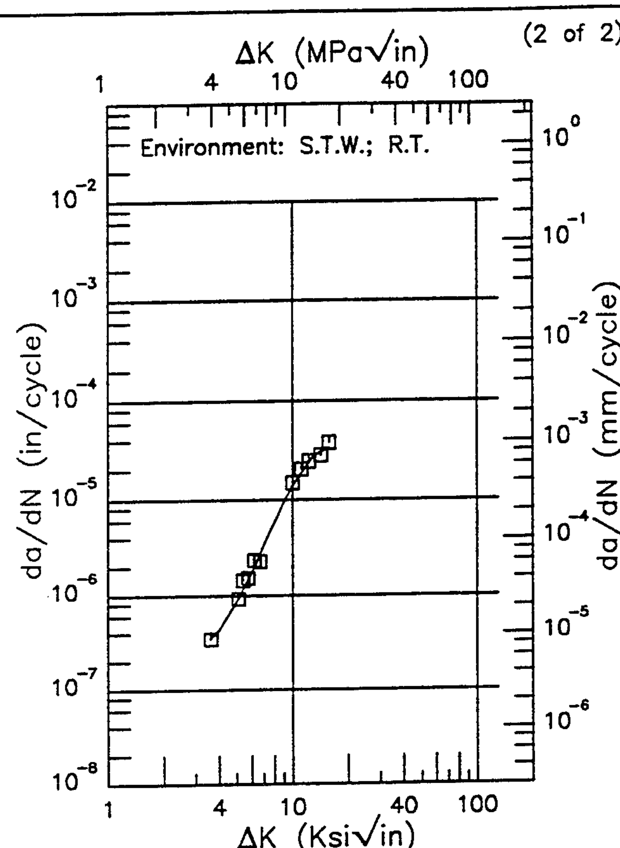
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.88 (min)	0.313
5.	0.359
6.	0.985
7.	2.17
8.	4.05
9.	6.69
10.	10.0
13.	22.1
16.	32.7
20.	52.3
23.91 (max)	117.

RMS % Error 12.04

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.59 (min)	0.349
4.	0.436
5.	0.868
6.	1.77
7.	3.39
8.	5.95
9.	9.50
10.	13.9
13.	27.9
15.70 (max)	33.4

RMS % Error 11.66

Life Prediction Ratio Summary

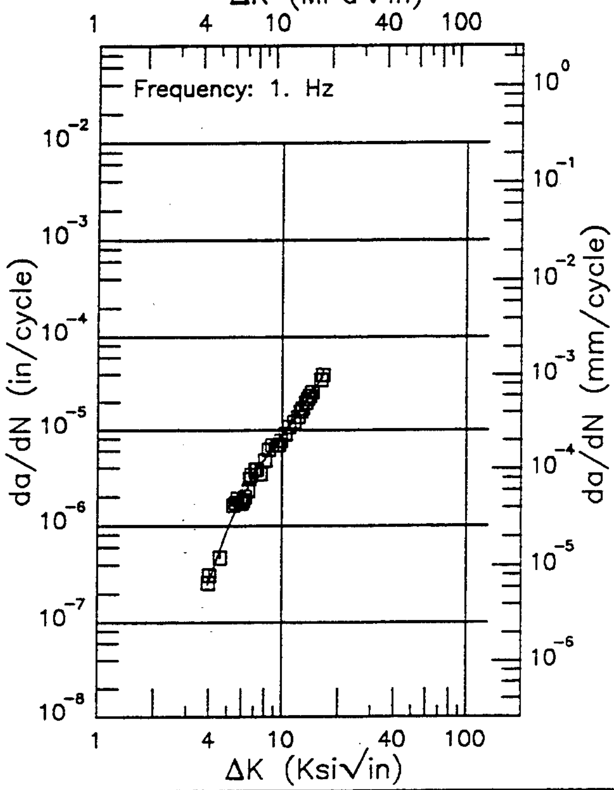
0. .5 .8 1.25 2.

Figure 8.9.3.1.129

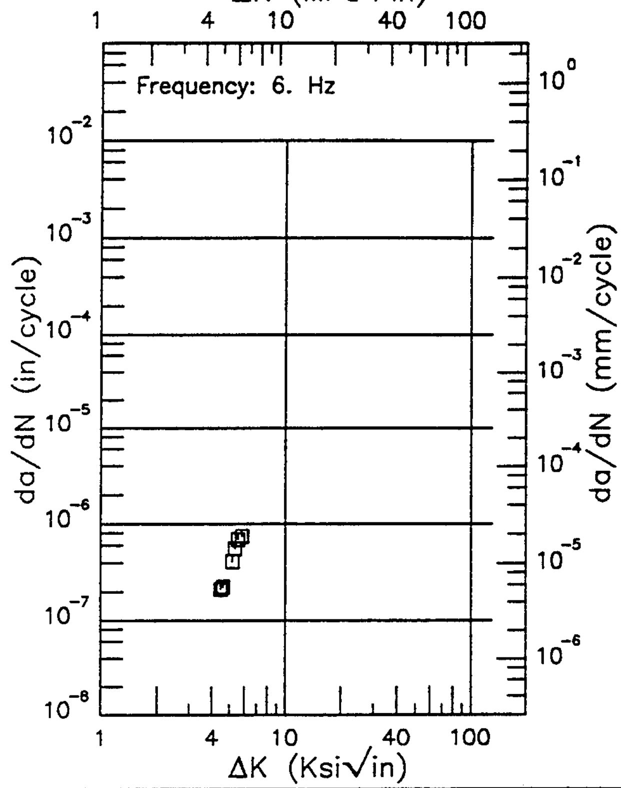
Condition/Ht: T7651
Form: 2 in. Plate
Specimen Type: CT
Orientation: L–T
Stress Ratio: 0.08
Environment: L.H.A.; RT

Yield Strength: 63 ksi
Ult. Strength: 74 ksi
Specimen Thk: 0.992 – 0.994 in.
Specimen Width: 7.4 in.
Ref: 85837;88579

(1 of 2)



(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.94 (min)	0.245
4.	0.269
5.	0.892
6.	1.96
7.	3.37
8.	4.94
9.	6.54
10.	8.31
13.	17.8
16.	34.9
16.45 (max)	36.8

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
11.42

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

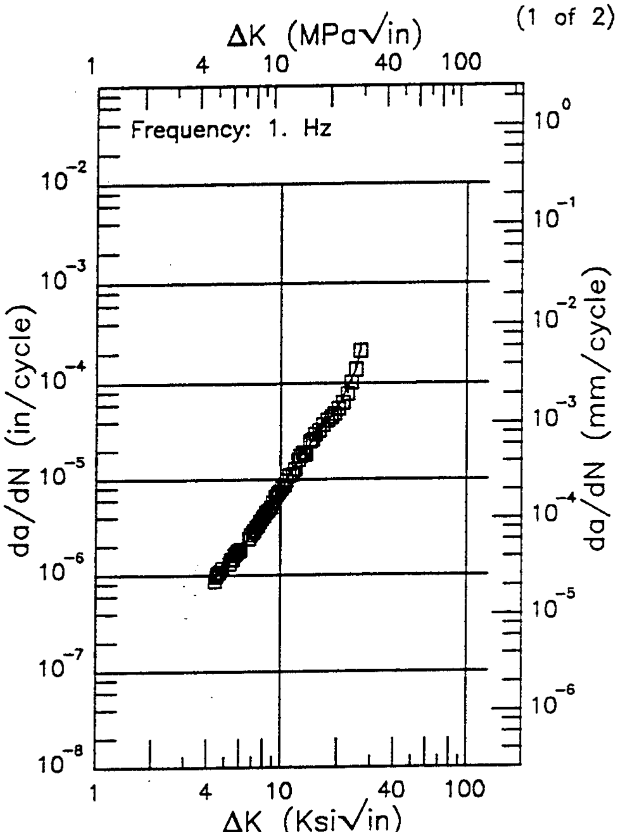
Figure 8.9.3.1.130

7075

F

Condition/Ht: T7651	Yield Strength: 63 ksi
Form: 2 in. Plate	Ult. Strength: 74 ksi
Specimen Type: CT	Specimen Thk: 0.99 in.
Orientation: L-T	Specimen Width: 7.4 in.
Stress Ratio: 0.08	Ref: 88579
Environment: L.H.A.;265°F	

(1 of 2)



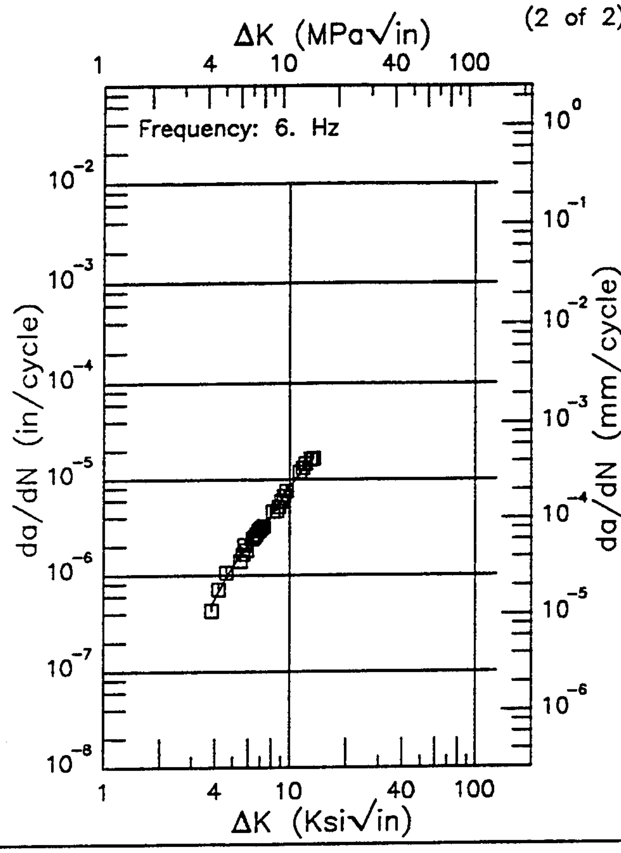
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.42 (min)	0.940
5.	1.20
6.	1.82
7.	2.68
8.	3.88
9.	5.50
10.	7.67
13.	18.1
16.	32.3
20.	54.7
25.	140.
26.29 (max)	213.

RMS % Error 4.29

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.84 (min)	0.483
4.	0.576
5.	1.25
6.	2.02
7.	2.95
8.	4.18
9.	5.97
10.	8.44
13.	16.0
13.34 (max)	16.4

RMS % Error 6.17

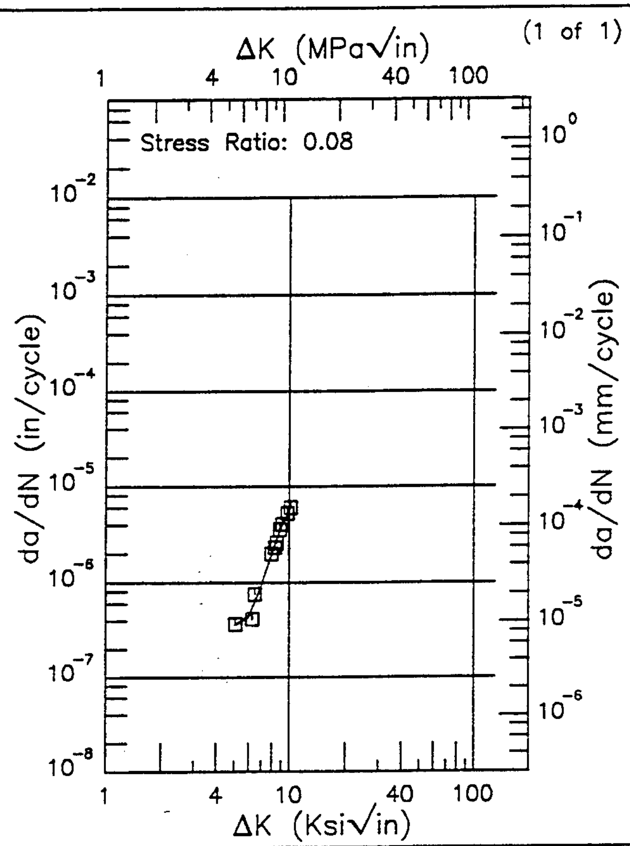
Life Prediction Ratio Summary

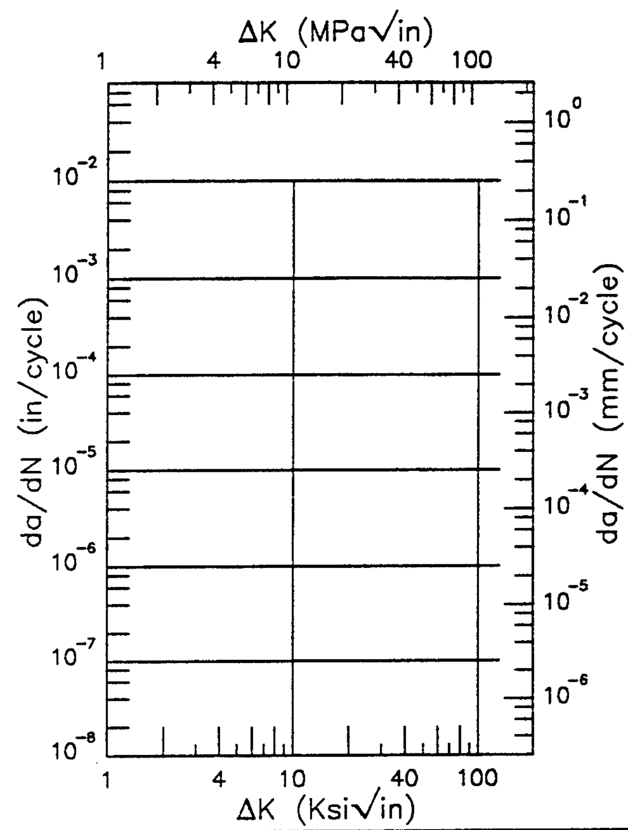
0. .5 .8 1.25 2.

Figure 8.9.3.1.131

Condition/Ht: T7651
Form: 2 in. Plate
Specimen Type: CT
Orientation: L–T
Frequency: 6 Hz
Environment: L.H.A.; RT

Yield Strength: 63 ksi
Ult. Strength: 74 ksi
Specimen Thk: 0.501 in.
Specimen Width: 7.4 in.
Ref: 85837





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
5.08 (min)	0.362
6.	0.441
7.	0.909
8.	2.00
9.	3.77
10.	5.63
10.11 (max)	5.78

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error
10.35

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

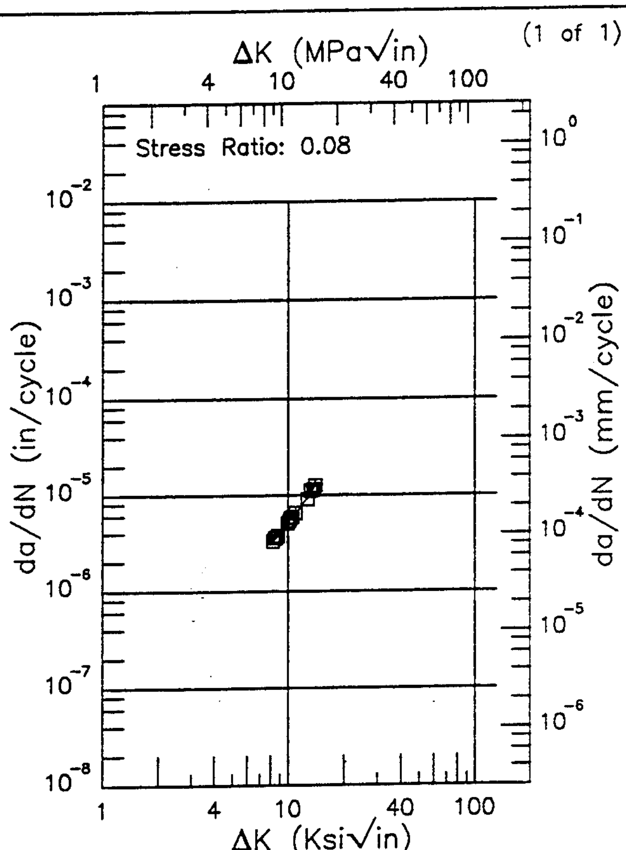
Figure 8.9.3.1.132

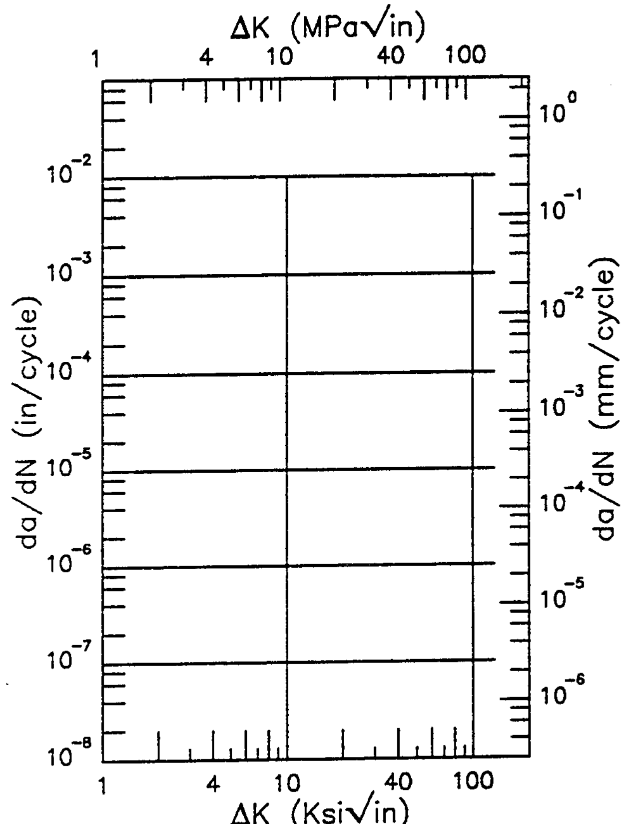
R

7075

Condition/Ht: T7651	Yield Strength: 63 ksi
Form: 2 in. Plate	Ult. Strength: 74 ksi
Specimen Type: CT	Specimen Thk: 0.25 in.
Orientation: L–T	Specimen Width: 7.4 in.
Frequency: 6. Hz	Ref: 88579
Environment: L.H.A.; RT	

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
8.23 (min)	3.28
9.	3.98
10.	5.18
13.	9.88
13.89 (max)	12.7

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
2.09	0. .5 .8 1.25 2.

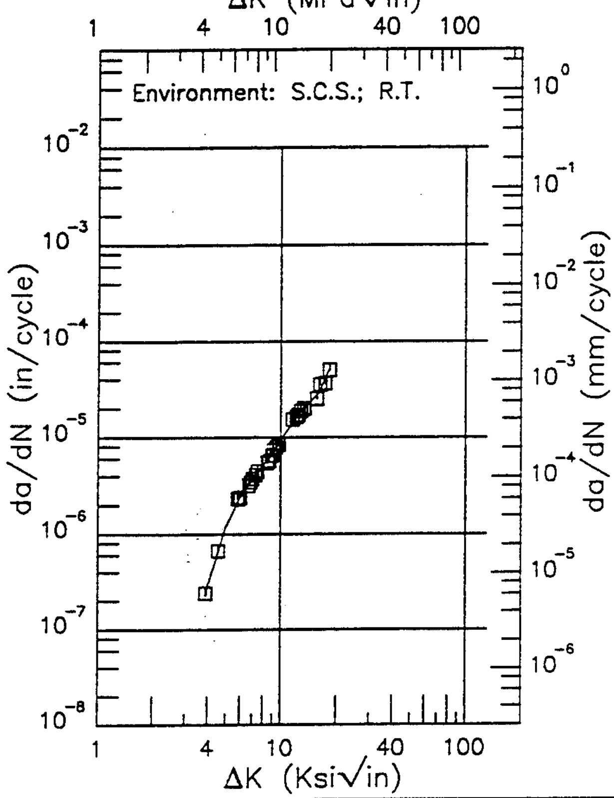
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

Figure 8.9.3.1.133

Condition/Ht: T7651
Form: 2 in. Plate
Specimen Type: CT
Orientation: L-T
Stress Ratio: 0.08
Frequency: 1 Hz

Yield Strength: 63 ksi
Ult. Strength: 74 ksi
Specimen Thk: 0.99 – 0.993 in.
Specimen Width: 7.4 in.
Ref: 88579;85837

(1 of 2)



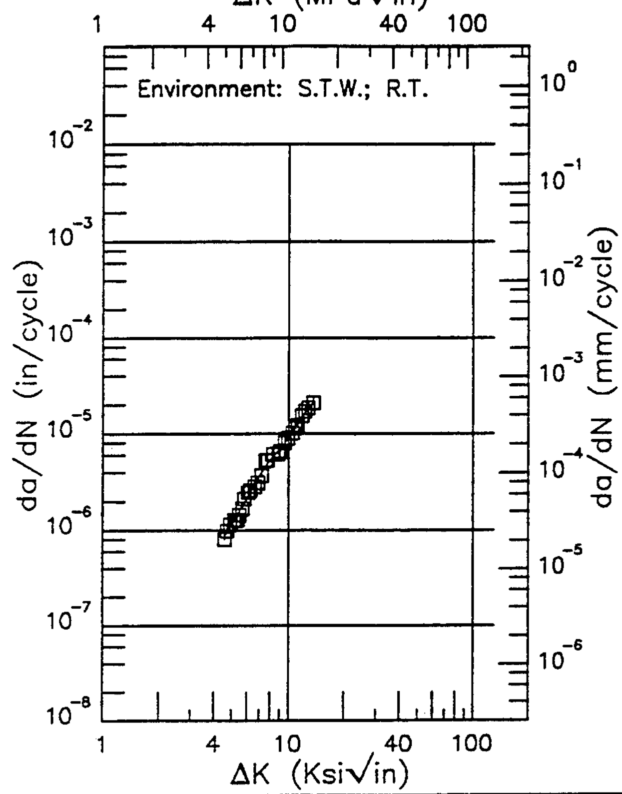
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.88 (min)	0.227
4.	0.294
5.	1.20
6.	2.43
7.	3.69
8.	5.08
9.	6.90
10.	9.40
13.	19.2
16.	28.7
18.21 (max)	50.1

RMS % Error: 5.47

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.54 (min)	0.862
5.	1.14
6.	2.16
7.	3.69
8.	5.35
9.	6.96
10.	8.94
13.	19.5
13.60 (max)	20.5

RMS % Error: 6.39

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

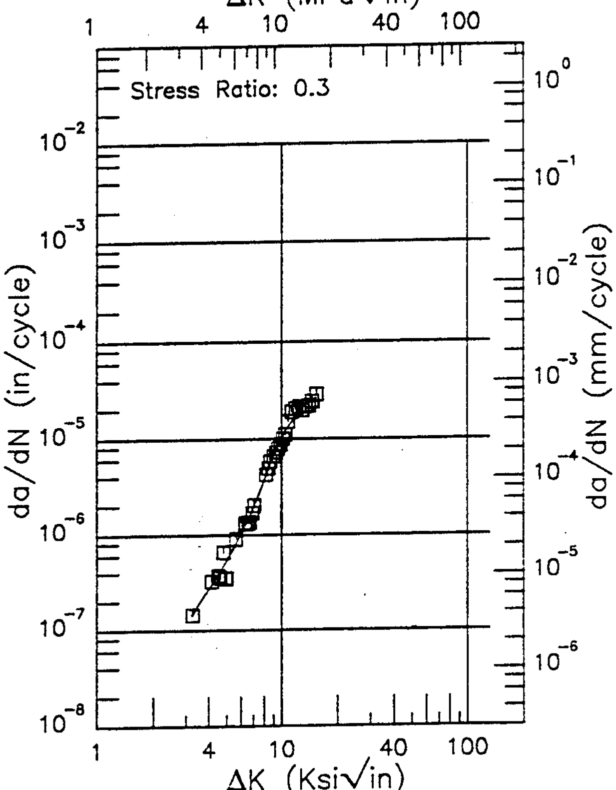
Figure 8.9.3.1.134

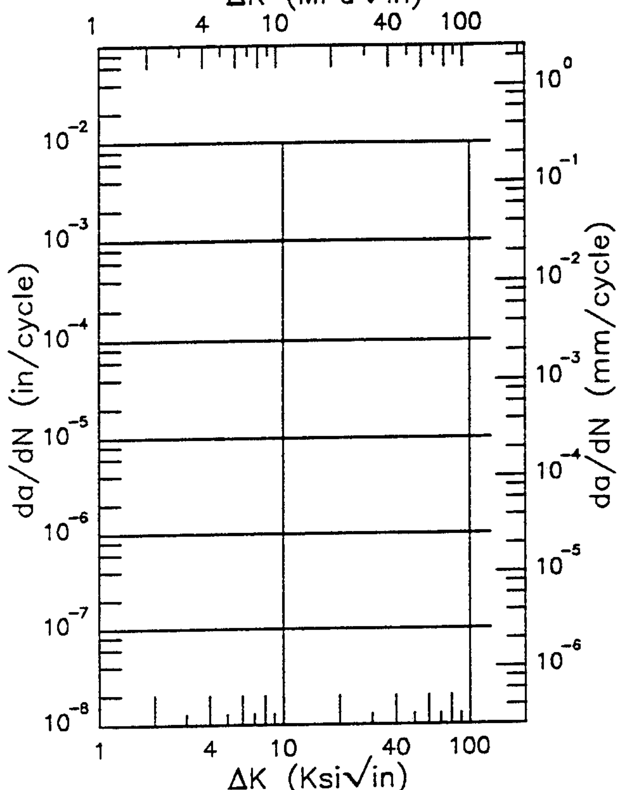
7075

R

Condition/Ht: T7651	Yield Strength: 64.7 ksi
Form: 2 in. Plate	Ult. Strength: 75.5 ksi
Specimen Type: CT	Specimen Thk: 0.812 in.
Orientation: L-T	Specimen Width: 6 in.
Frequency: 6 Hz	Ref: 85837
Environment: L.H.A.; RT	

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.26 (min)	0.145
3.5	0.181
4.	0.271
5.	0.540
6.	1.02
7.	1.94
8.	3.70
9.	6.69
10.	10.8
13.	21.5
15.27 (max)	26.7

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
13.55	0. .5 .8 1.25 2.

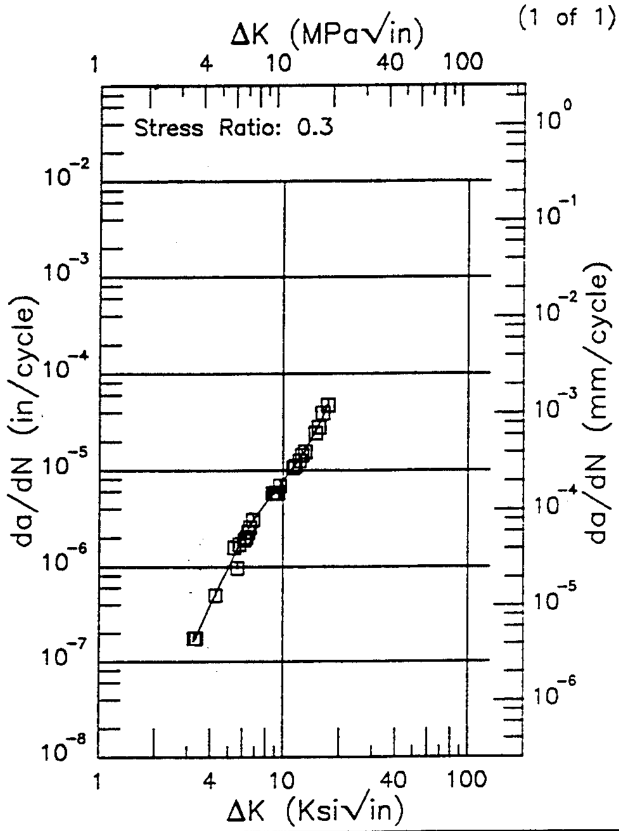
RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

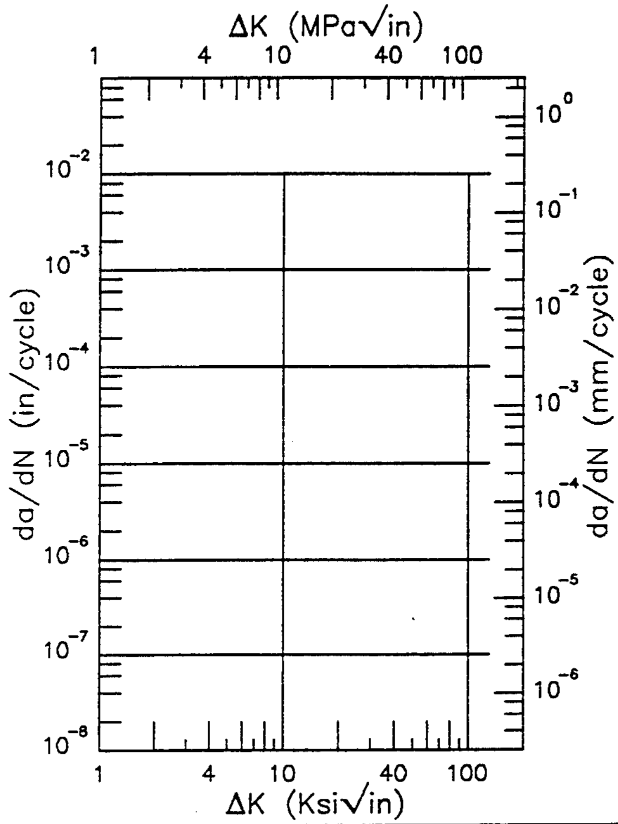
Figure 8.9.3.1.135

Condition/Ht: T7651
Form: 2 in. Plate
Specimen Type: CT
Orientation: L–T
Frequency: 6 Hz
Environment: L.H.A.; RT

Yield Strength: 63 ksi
Ult. Strength: 74 ksi
Specimen Thk: 0.99 in.
Specimen Width: 7.4 in.
Ref: 88579

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.26 (min)	0.162
3.5	0.219
4.	0.389
5.	0.990
6.	1.97
7.	3.21
8.	4.55
9.	5.99
10.	7.64
13.	15.4
16.	33.8
17.22 (max)	48.2

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error	Life Prediction Ratio Summary
9.84	0. .5 .8 1.25 2.

RMS % Error	Life Prediction Ratio Summary
	0. .5 .8 1.25 2.

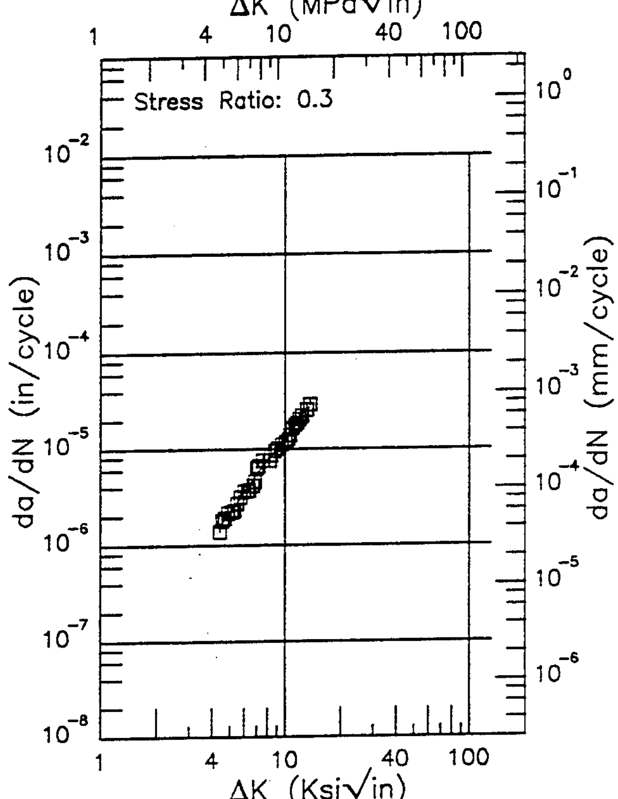
Figure 8.9.3.1.136

R — 7075

Condition/Ht: T7651
Form: 2 in. Plate
Specimen Type: CT
Orientation: L-T
Frequency: 1 Hz
Environment: S.T.W.; RT

Yield Strength: 63 ksi
Ult. Strength: 74 ksi
Specimen Thk: 0.992 – 0.995 in.
Specimen Width: 7.4 in.
Ref: 85837

(1 of 2)

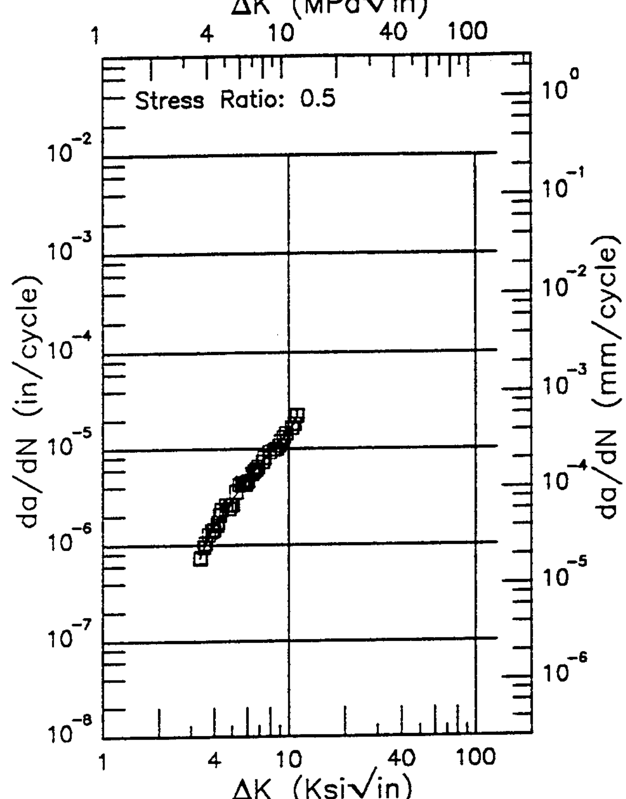


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.41 (min)	1.61
5.	2.12
6.	3.51
7.	5.46
8.	7.71
9.	9.99
10.	12.3
13.	26.0
13.60 (max)	27.7

RMS % Error: 7.21

Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
3.35 (min)	0.724
3.5	0.897
4.	1.54
5.	3.00
6.	4.75
7.	6.84
8.	9.09
9.	11.6
10.	15.0
11.02 (max)	21.0

RMS % Error: 6.03

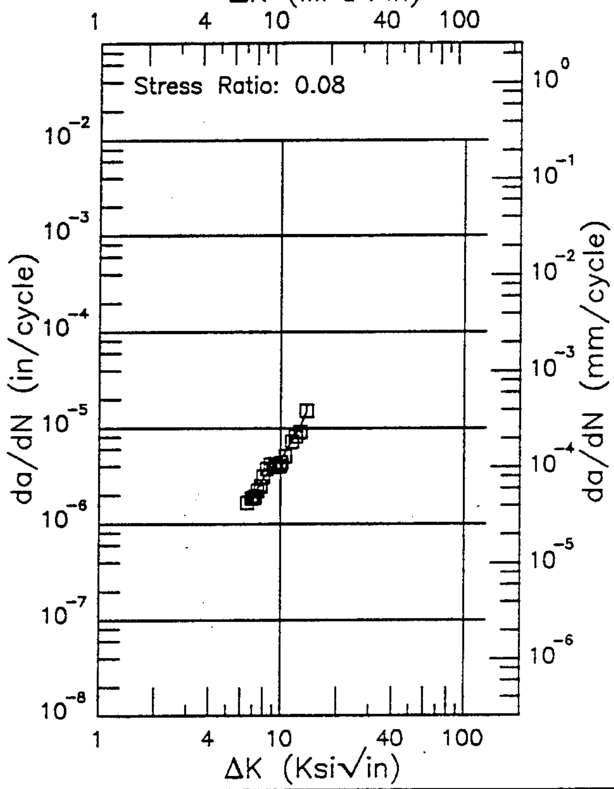
Life Prediction Ratio Summary: 0. .5 .8 1.25 2.

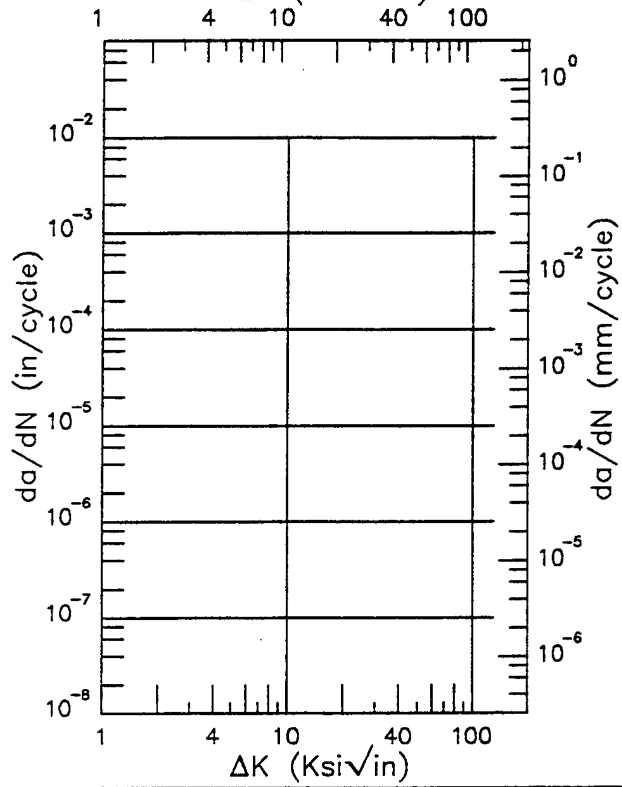
Figure 8.9.3.1.137

Condition/Ht: T7651
Form: 2 in. Plate
Specimen Type: CT
Orientation: T-L
Frequency: 6 Hz
Environment: L.H.A.; RT

Yield Strength: 64 ksi
Ult. Strength: 74 ksi
Specimen Thk: 0.505 in.
Specimen Width: 7.4 in.
Ref: 85837

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
6.51 (min)	1.57
7.	1.89
8.	2.91
9.	4.00
10.	4.75
13.	11.2
13.71 (max)	14.5

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)

RMS % Error
7.63

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary
0. .5 .8 1.25 2.

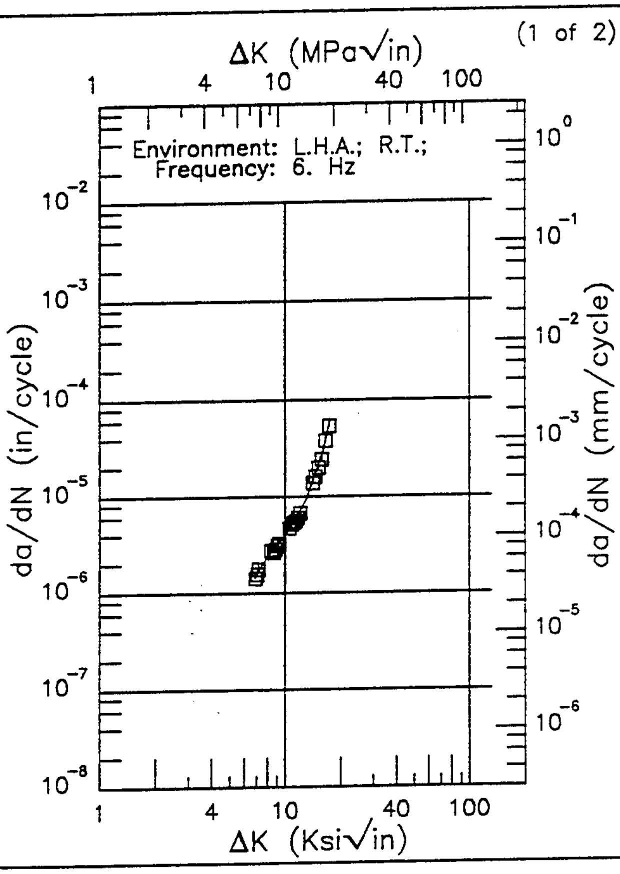
Figure 8.9.3.1.138

EF 7075

Condition/Ht: T7651
Form: 2 in. Plate
Specimen Type: CT
Orientation: T–L
Stress Ratio: 0.08

Yield Strength: 64 ksi
Ult. Strength: 74 ksi
Specimen Thk: 0.99 in.
Specimen Width: 7.4 in.
Ref: 88579

(1 of 2)



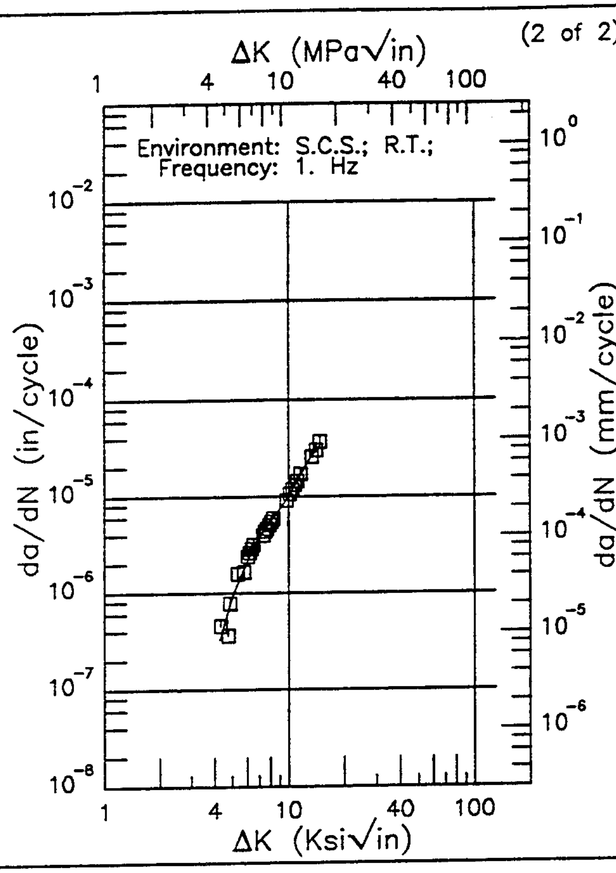
ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.88 (min)	1.48
7.	1.59
8.	2.39
9.	3.09
10.	3.93
13.	9.23
16.	30.1
17.22 (max)	54.6

RMS % Error 5.60

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

(2 of 2)



ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.30 (min)	0.331
5.	0.891
6.	2.14
7.	3.71
8.	5.47
9.	7.51
10.	10.0
13.	24.4
14.82 (max)	33.8

RMS % Error 13.85

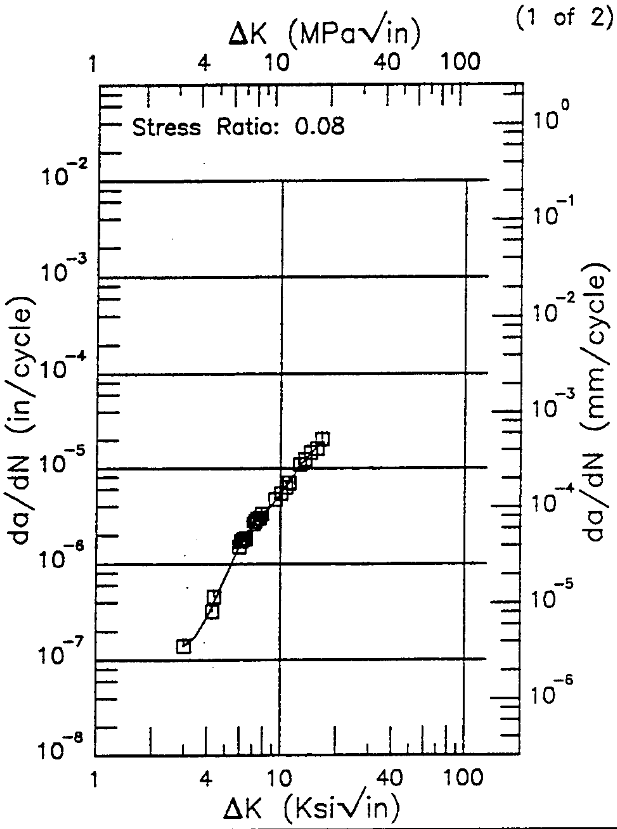
Life Prediction Ratio Summary

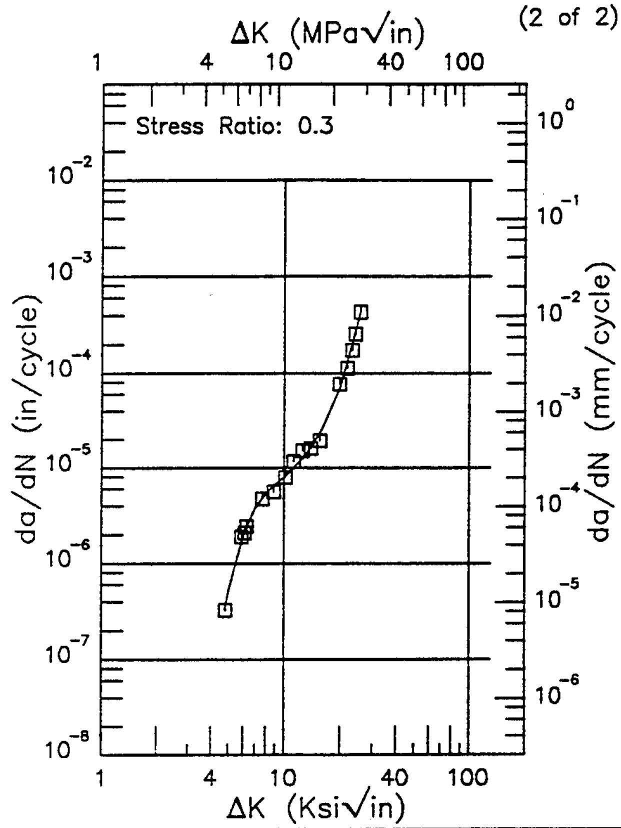
0. .5 .8 1.25 2.

Figure 8.9.3.1.139

Condition/Ht: T76511
Form: Extrusion
Specimen Type: CT
Orientation: L-T
Frequency: 6 Hz
Environment: L.H.A.; RT

Yield Strength: 68 ksi
Ult. Strength: 77 ksi
Specimen Thk: 1 in.
Specimen Width: 6 in.
Ref: 88579



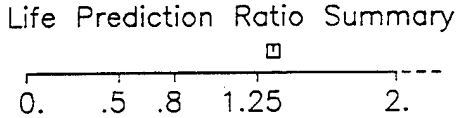


ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
2.99 (min)	0.139
3.	0.139
3.5	0.178
4.	0.275
5.	0.717
6.	1.54
7.	2.48
8.	3.32
9.	4.19
10.	5.35
13.	11.2
16.	17.4
16.70 (max)	19.5

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
4.80 (min)	0.335
5.	0.498
6.	1.88
7.	3.71
8.	5.35
9.	6.69
10.	7.94
13.	13.4
16.	25.4
20.	72.5
25.	344.
25.56 (max)	419.

RMS % Error
4.78

Life Prediction Ratio Summary



RMS % Error
10.83

Life Prediction Ratio Summary

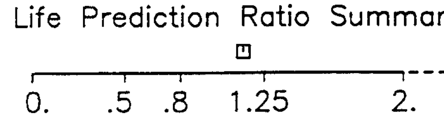


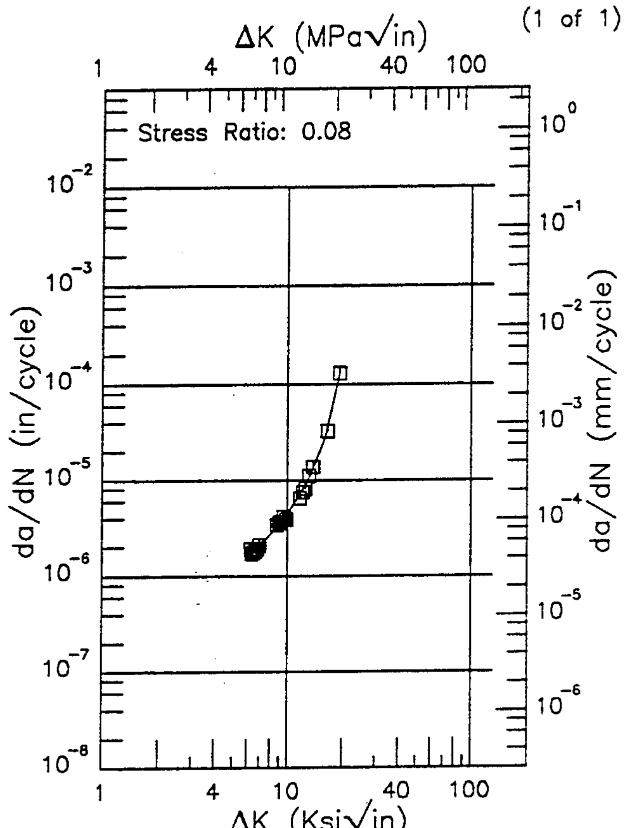
Figure 8.9.3.1.140

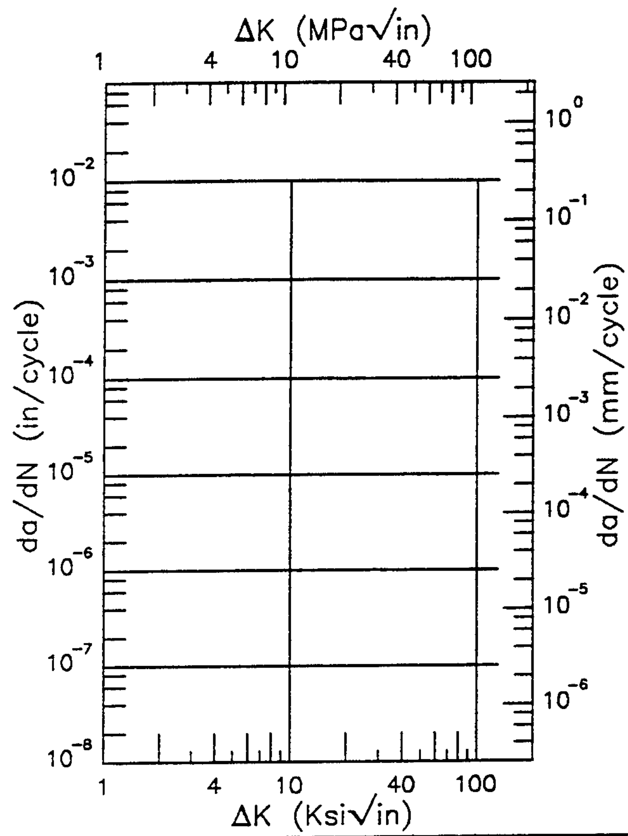
7075

R

Condition/Ht: T76511	Yield Strength: 61 ksi
Form: Extrusion	Ult. Strength: 72 ksi
Specimen Type: CT	Specimen Thk: 1 in.
Orientation: T–L	Specimen Width: 6 in.
Frequency: 6 Hz	Ref: 88579
Environment: L.H.A.; RT	

(1 of 1)





ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)
6.23 (min)	1.65
7.	2.08
8.	2.70
9.	3.45
10.	4.42
13.	9.98
16.	28.1
19.09 (max)	125.

ΔK (Ksi√in)	da/dN (10^{-6}in/cycle)

RMS % Error

6.42

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS % Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.9.3.1.141

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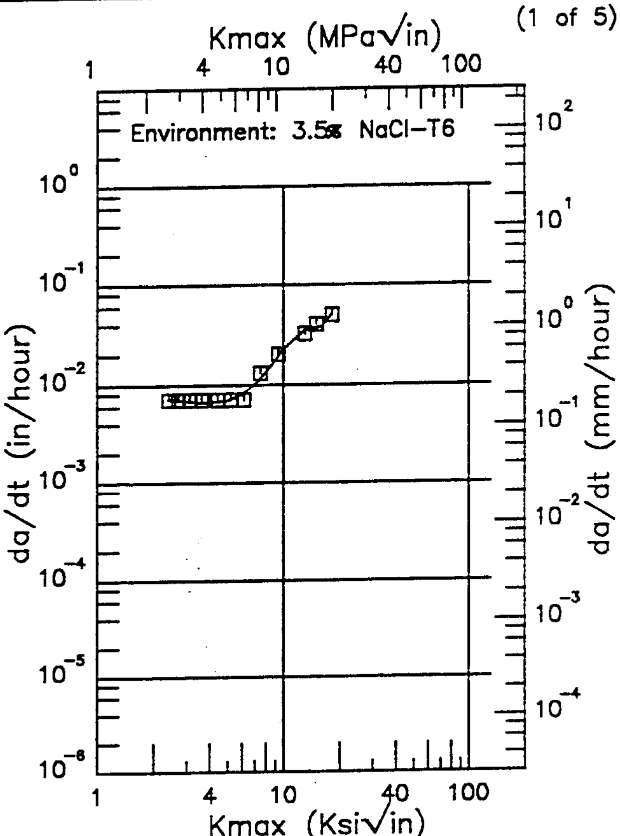
7075

Condition/Ht:	Specimen Thk: 1 in.
Form: 1 in. Plate	Specimen Width: 5 in.
Specimen Type: DCB	A_o:
Orientation: S-L	K_{Iscc}:
Yield Strength:	Ref: 84286
Ult. Strength:	

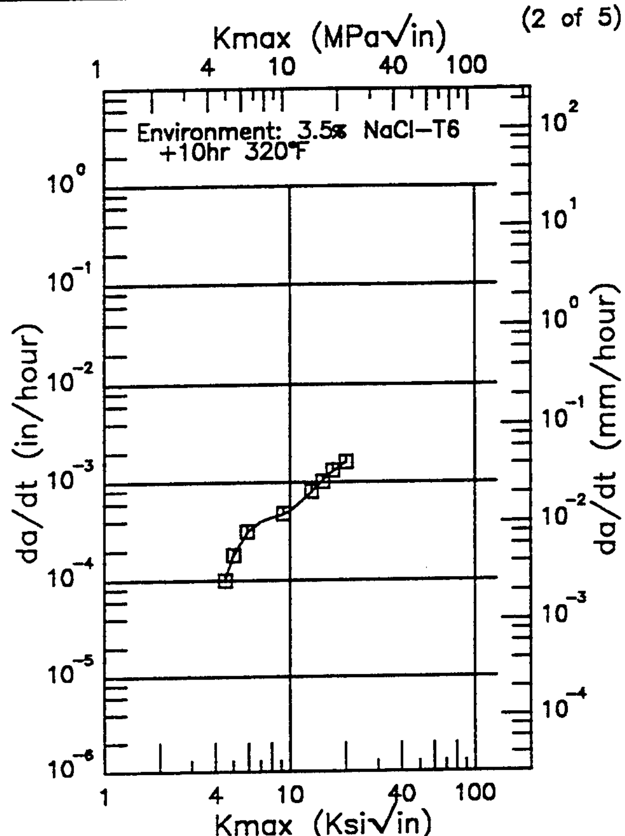
(1 of 5)



Kmax (Ksi√in)	da/dt (10^{-3}in/hour)
2.40 (min)	7.23
3.	7.19
3.	6.95
4.	6.75
4.	6.69
5.	7.07
6.	8.16
7.	10.1
8.	13.3
9.	17.8
10.	23.0
13.	35.2
16.	38.7
18.00 (max)	50.8

RMS % Error 6.98

(2 of 5)



Kmax (Ksi√in)	da/dt (10^{-3}in/hour)
4.50 (min)	0.0993
5.	0.178
6.	0.322
7.	0.401
8.	0.436
9.	0.464
10.	0.510
13.	0.789
16.	1.16
20.00 (max)	1.60

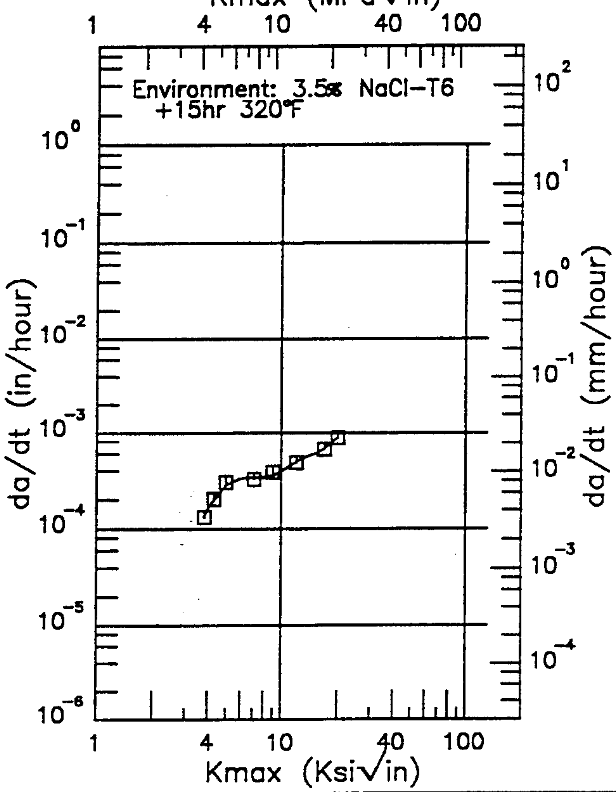
RMS % Error 1.68

Figure 8.9.3.2.1

Condition/Ht:
Form: 1 in. Plate
Specimen Type: DCB
Orientation: S-L
Yield Strength:
Ult. Strength:

Specimen Thk: 1 in.
Specimen Width: 5 in.
A_0:
K_{Iscc}:
Ref: 84286

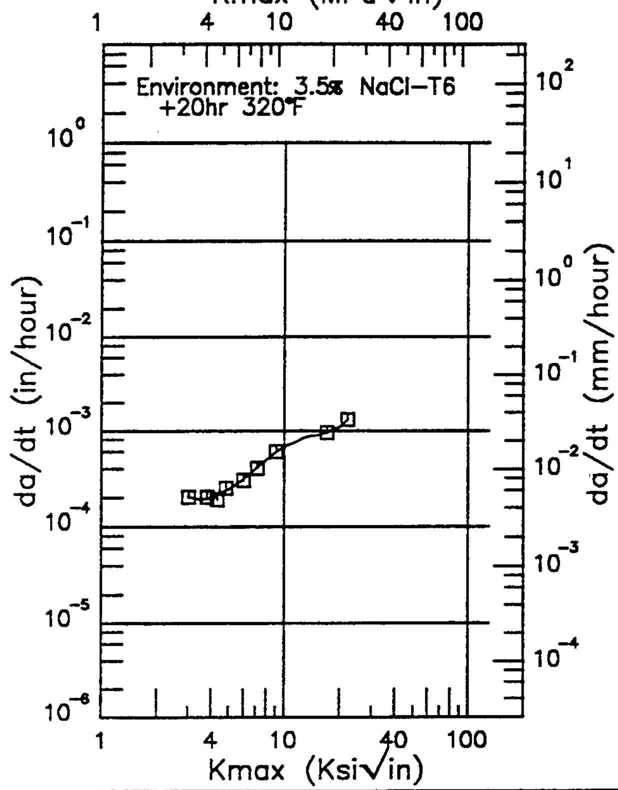
(3 of 5)



Kmax (Ksi√in)	da/dt (10^{-3}in/hour)
3.80 (min)	0.132
4.	0.163
5.	0.285
6.	0.333
7.	0.341
8.	0.344
9.	0.357
10.	0.389
13.	0.538
16.	0.633
20.00 (max)	0.881

RMS % Error 4.18

(4 of 5)



Kmax (Ksi√in)	da/dt (10^{-3}in/hour)
3.00 (min)	0.203
4.	0.191
4.	0.198
5.	0.242
6.	0.312
7.	0.399
8.	0.495
9.	0.592
10.	0.683
13.	0.862
16.	0.926
20.	1.10
22.00 (max)	1.30

RMS % Error 4.55

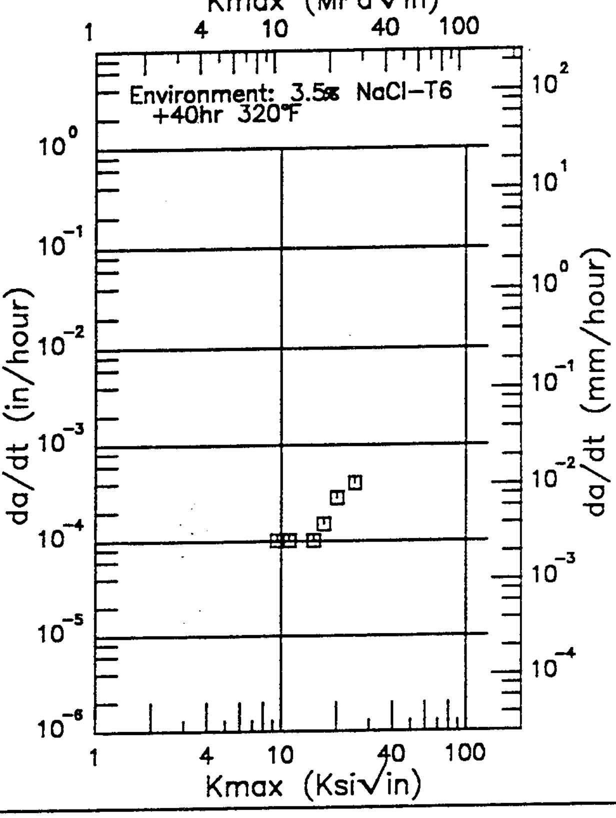
Figure 8.9.3.2.1 (Continued)

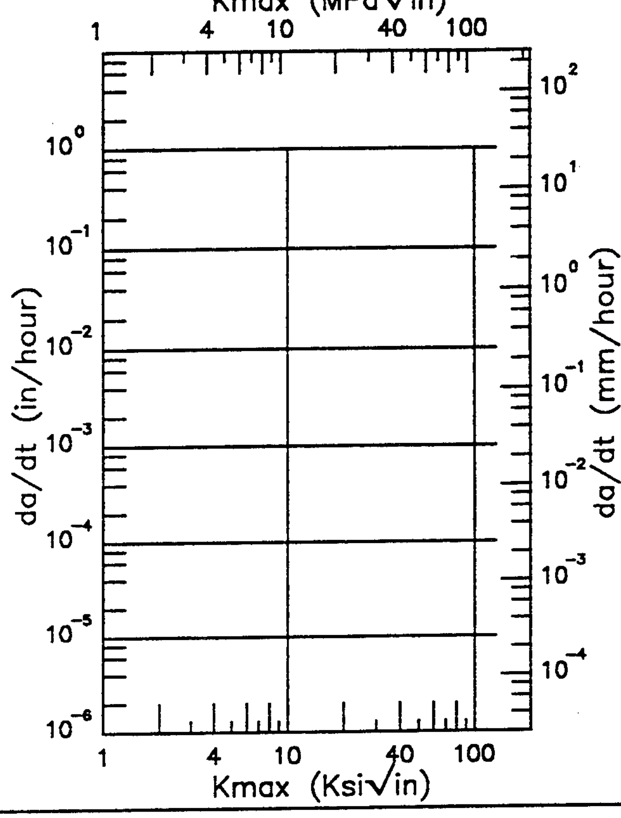
7075

Condition/Ht:
Form: 1 in. Plate
Specimen Type: DCB
Orientation: S–L
Yield Strength:
Ult. Strength:

Specimen Thk: 1 in.
Specimen Width: 5 in.
A_o:
K_{Iscc}:
Ref: 84286

(5 of 5)





Kmax (Ksi√in)	da/dt (10^{-3}in/hour)

Kmax (Ksi√in)	da/dt (10^{-3}in/hour)

RMS % Error	

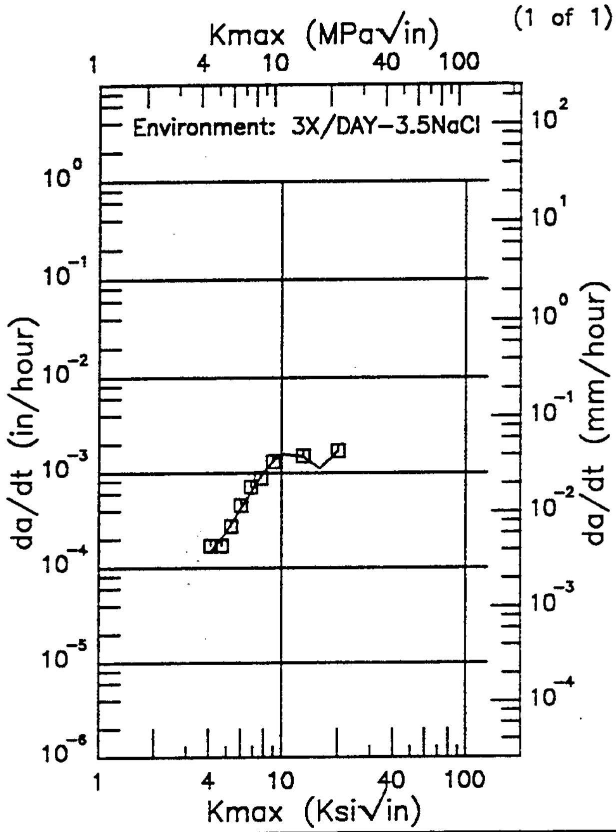
RMS % Error	

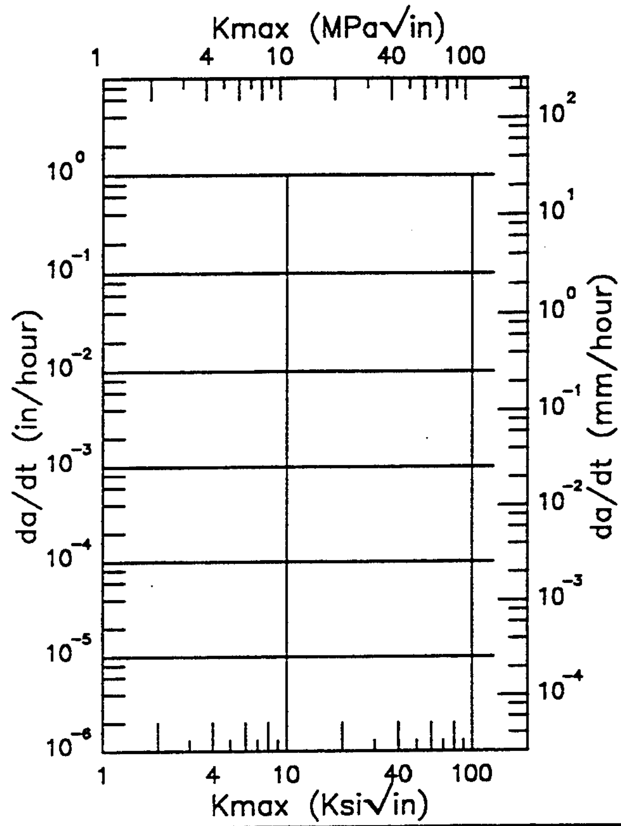
Figure 8.9.3.2.1 (Concluded)

Condition/Ht: T651
Form:
Specimen Type: DCB
Orientation: S-L
Yield Strength:
Ult. Strength:

Specimen Thk: 1 in.
Specimen Width: 5 in.
A_0:
K_{Iscc}:
Ref: 78313

(1 of 1)





Kmax (Ksi√in)	da/dt (10^{-3}in/hour)
4.10 (min)	0.146
5.	0.234
6.	0.415
7.	0.686
8.	1.02
9.	1.34
10.	1.58
13.	1.49
16.	1.12
20.00 (max)	1.70

Kmax (Ksi√in)	da/dt (10^{-3}in/hour)

RMS % Error
9.26

RMS % Error

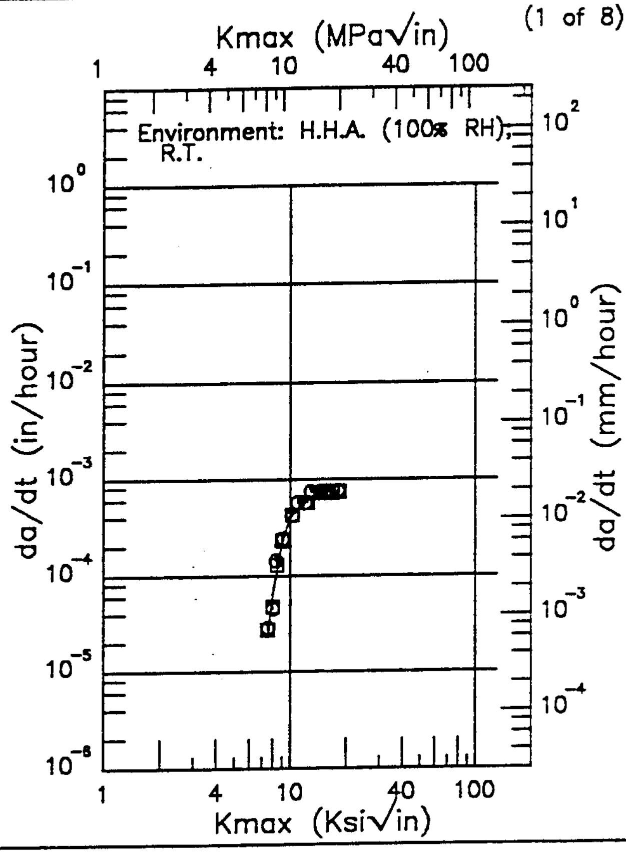
Figure 8.9.3.2.2

7075

Condition/Ht: T651
Form: 1 in. Plate
Specimen Type: DCB
Orientation: T–L
Yield Strength: 68 ksi
Ult. Strength:

Specimen Thk:
Specimen Width: 11.8 in.
A_O: 3 in.
K_{Iscc}:
Ref: 85543

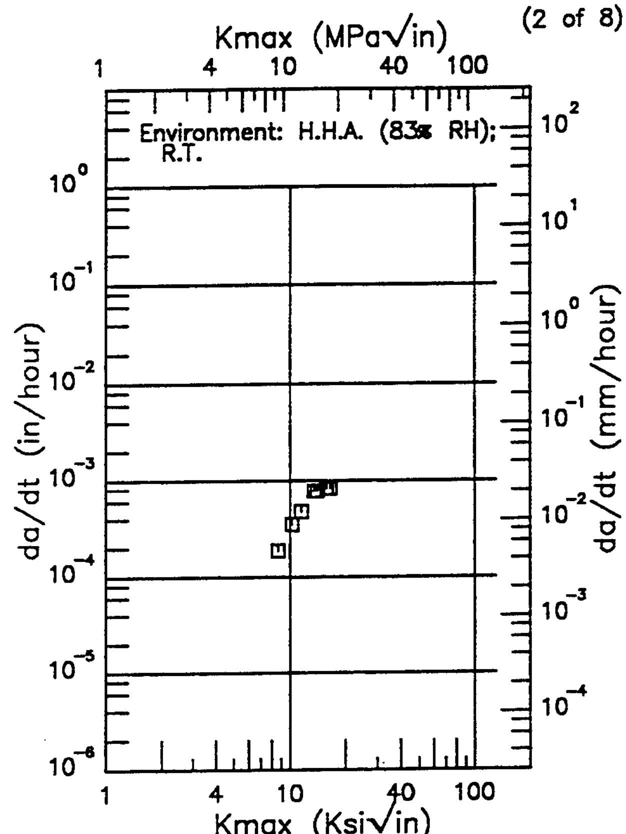
(1 of 8)



Kmax (Ksi√in)	da/dt (10^{-3}in/hour)
7.50 (min)	0.0232
8.	0.0630
9.	0.221
10.	0.413
13.	0.659
16.	0.747
18.20 (max)	0.725

RMS % Error
15.78

(2 of 8)



Kmax (Ksi√in)	da/dt (10^{-3}in/hour)

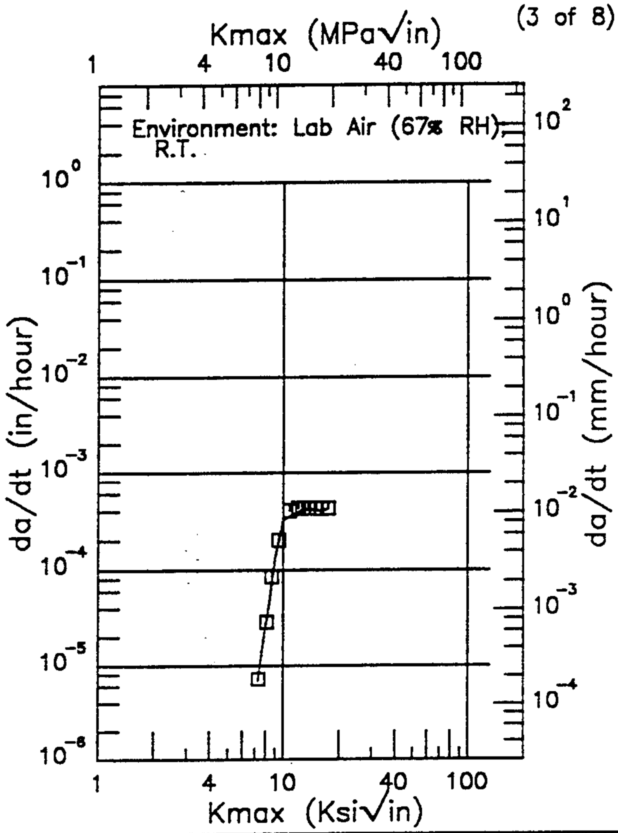
RMS % Error

Figure 8.9.3.2.3

Condition/Ht: T651
Form: 1 in. Plate
Specimen Type: DCB
Orientation: T–L
Yield Strength: 68 ksi
Ult. Strength:

Specimen Thk:
Specimen Width: 11.8 in.
A_0: 3 in.
K_{Iscc}:
Ref: 85543

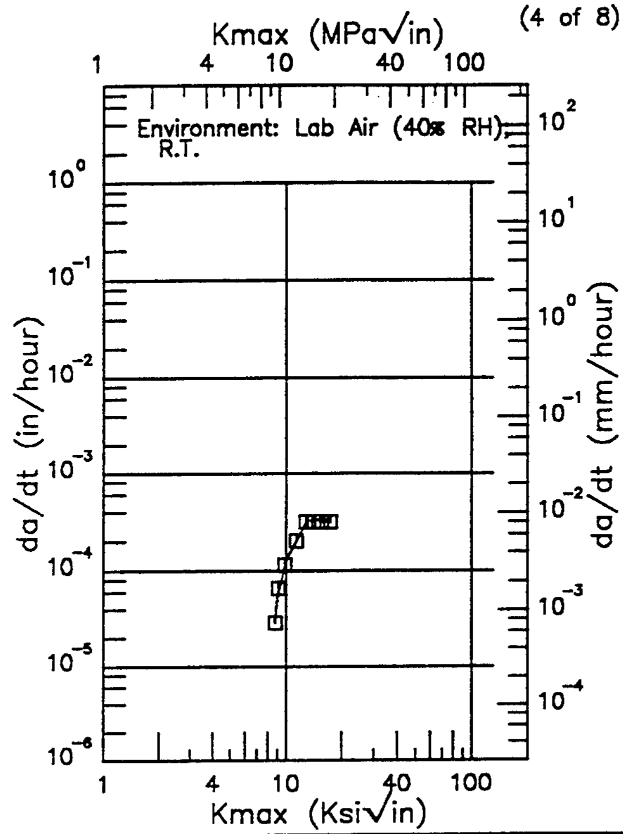
(3 of 8)



Kmax (Ksi√in)	da/dt (10^{-3}in/hour)
7.30 (min)	0.00691
8.	0.0264
9.	0.130
10.	0.324
13.	0.420
16.	0.405
17.30 (max)	0.425

RMS % Error 10.02

(4 of 8)



Kmax (Ksi√in)	da/dt (10^{-3}in/hour)
8.70 (min)	0.0301
9.	0.0534
10.	0.128
13.	0.324
16.	0.331
17.30 (max)	0.310

RMS % Error 5.68

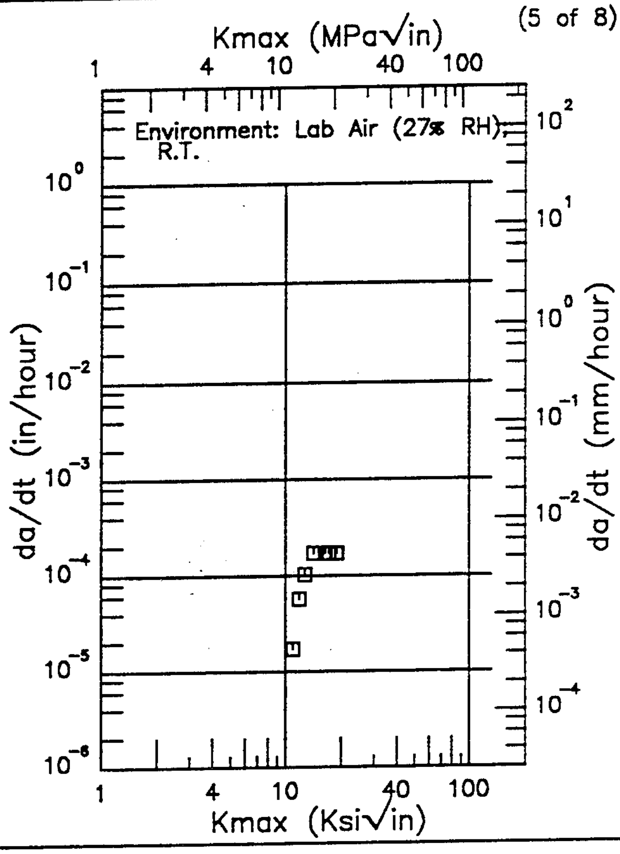
Figure 8.9.3.2.3 (Continued)

7075

Condition/Ht: T651
Form: 1 in. Plate
Specimen Type: DCB
Orientation: T–L
Yield Strength: 68 ksi
Ult. Strength:

Specimen Thk:
Specimen Width: 11.8 in.
A_0: 3 in.
K_{Iscc}:
Ref: 85543

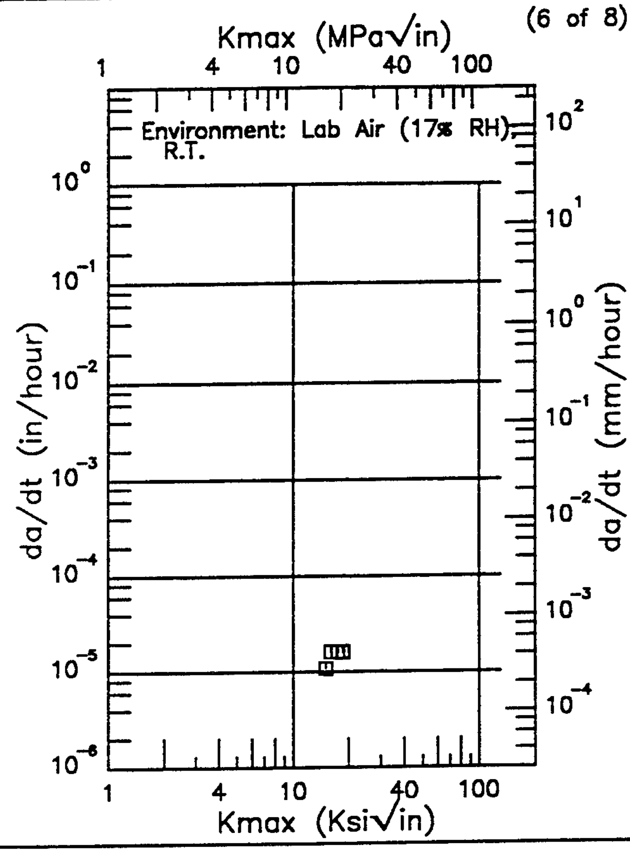
(5 of 8)



Kmax (Ksi√in)	da/dt (10^{-3}in/hour)

RMS % Error	

(6 of 8)



Kmax (Ksi√in)	da/dt (10^{-3}in/hour)

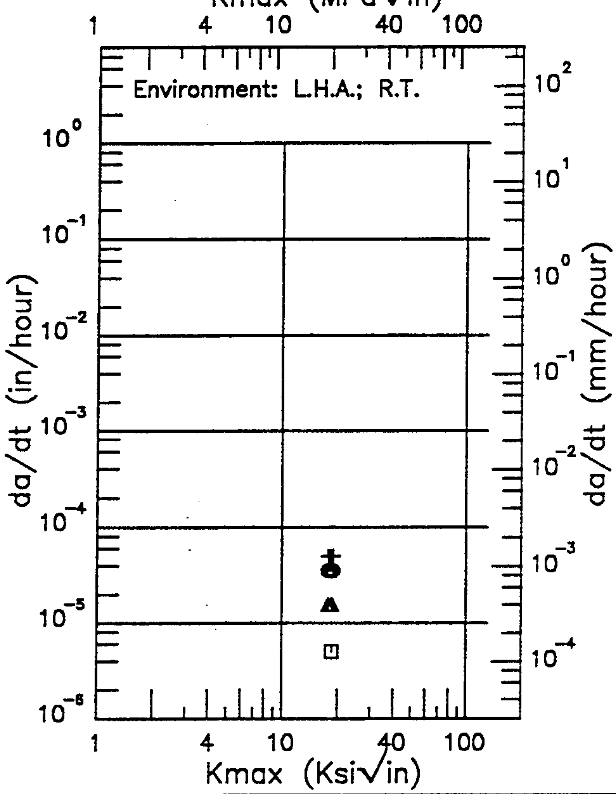
RMS % Error	

Figure 8.9.3.2.3 (Continued)

Condition/Ht: T651
Form: 1 in. Plate
Specimen Type: DCB
Orientation: T–L
Yield Strength: 68 ksi
Ult. Strength:

Specimen Thk:
Specimen Width: 11.8 in.
A_o: 3 in.
K_{Iscc}:
Ref: 85543

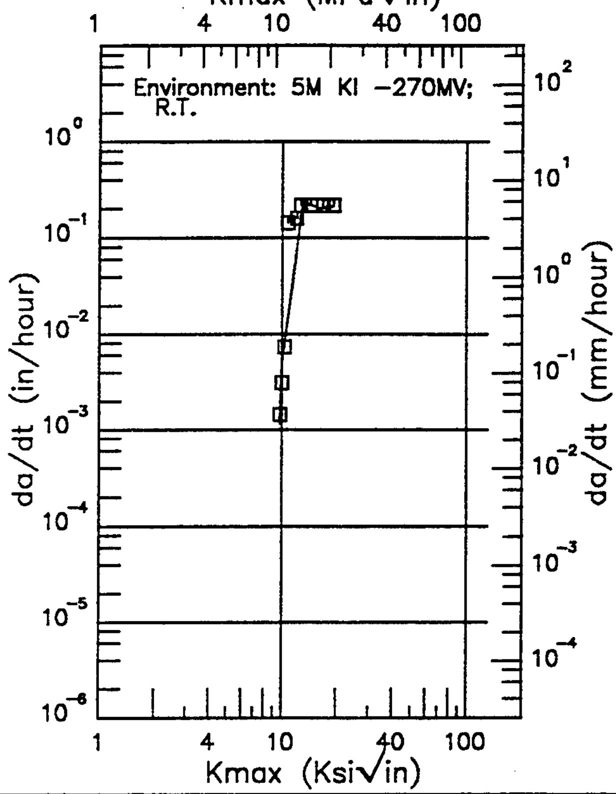
(7 of 8)



Kmax (Ksi√in)	da/dt (10^{-3}in/hour)
17.60 (min)	0.0500
18.70 (max)	0.0350

RMS % Error	
45.9	

(8 of 8)



Kmax (Ksi√in)	da/dt (10^{-3}in/hour)
9.70 (min)	1.14
10.	5.24
13.	236.
16.	201.
19.10 (max)	209.

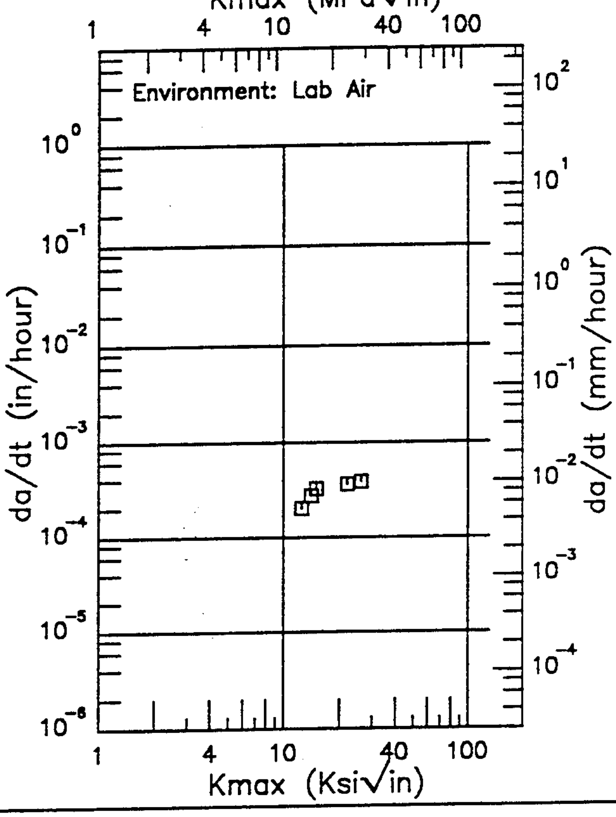
RMS % Error	
>100.0	

Figure 8.9.3.2.3 (Concluded)

7075

Condition/Ht: T651	Specimen Thk: 1 in.
Form: 1 in. Plate	Specimen Width: 3.5 – 5 in.
Specimen Type: DCB	A_O:
Orientation: S–L	K_{Iscc}:
Yield Strength:	Ref: 78313;84284
Ult. Strength:	

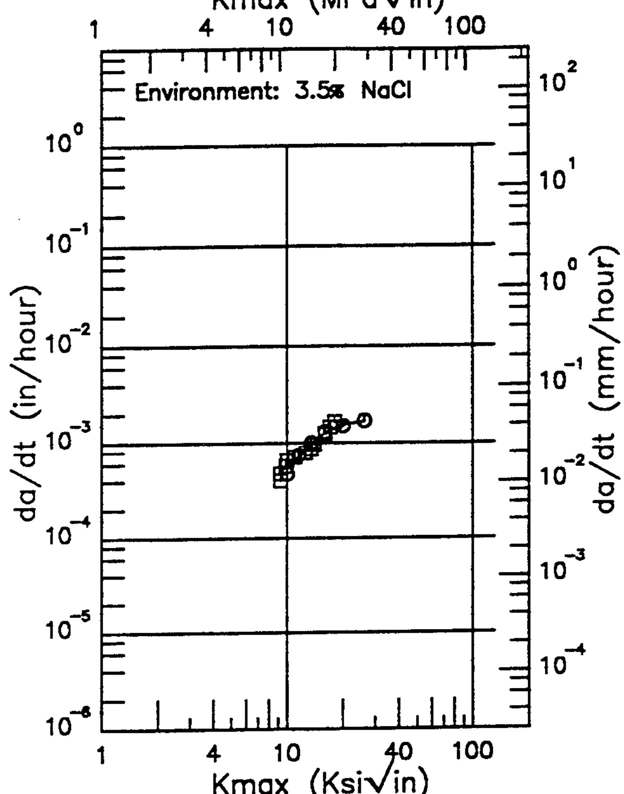
(1 of 8)



Kmax (Ksi√in) da/dt (10^{-3}in/hour)

RMS % Error

(2 of 8)



Kmax (Ksi√in)	da/dt (10^{-3}in/hour)
9.20 (min)	0.536
10.	0.577
13.	0.887
16.	1.28
20.	1.55
25.	1.66
26.00 (max)	1.70

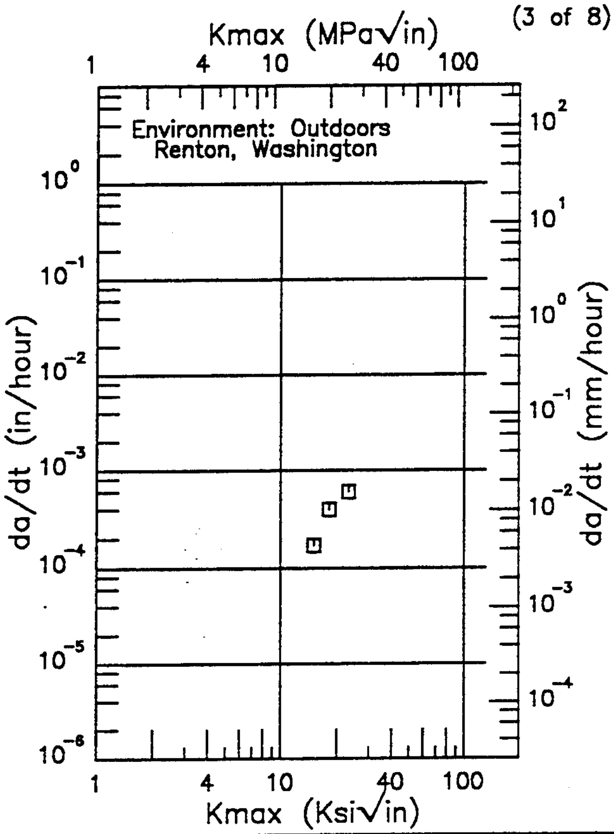
RMS % Error
10.42

Figure 8.9.3.2.4

Condition/Ht: T651
Form: 1 in. Plate
Specimen Type: DCB
Orientation: S–L
Yield Strength:
Ult. Strength:

Specimen Thk: 1 in.
Specimen Width: 3.5 – 5 in.
A_o:
K_{Iscc}:
Ref: 78313;84284

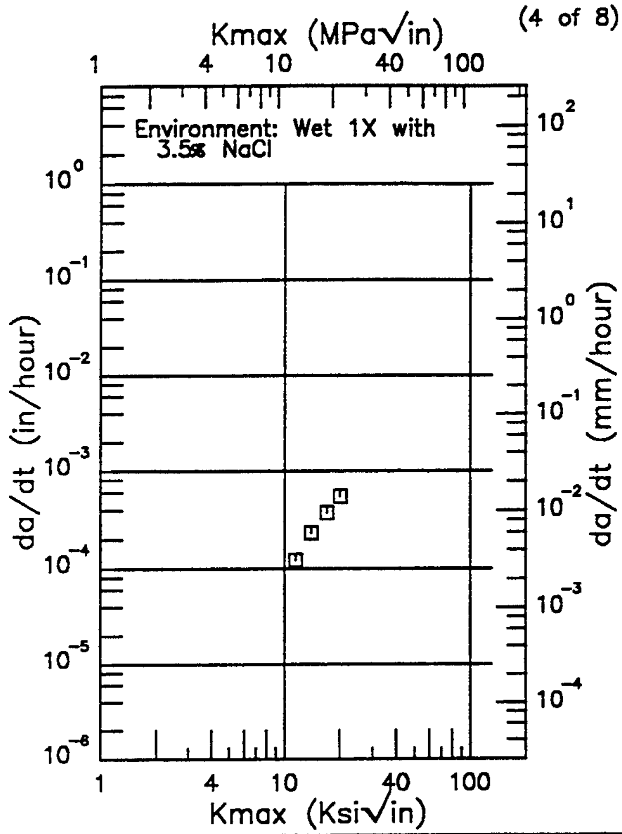
(3 of 8)



Kmax (Ksi√in)	da/dt (10^{-3}in/hour)

RMS % Error	

(4 of 8)



Kmax (Ksi√in)	da/dt (10^{-3}in/hour)

RMS % Error	

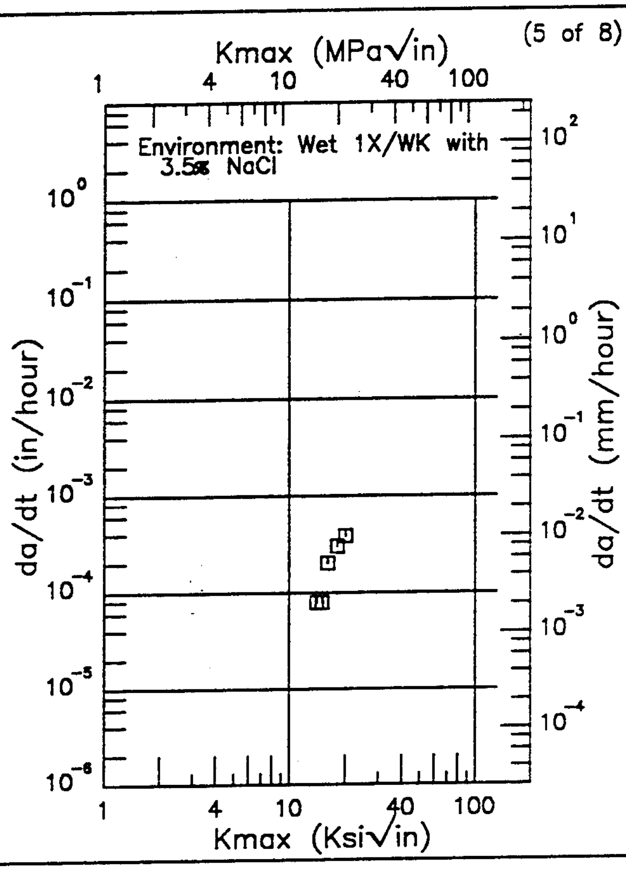
Figure 8.9.3.2.4 (Continued)

7075

Condition/Ht: T651
Form: 1 in. Plate
Specimen Type: DCB
Orientation: S-L
Yield Strength:
Ult. Strength:

Specimen Thk: 1 in.
Specimen Width: 3.5 – 5 in.
A_0:
K_{Iscc}:
Ref: 78313;84284

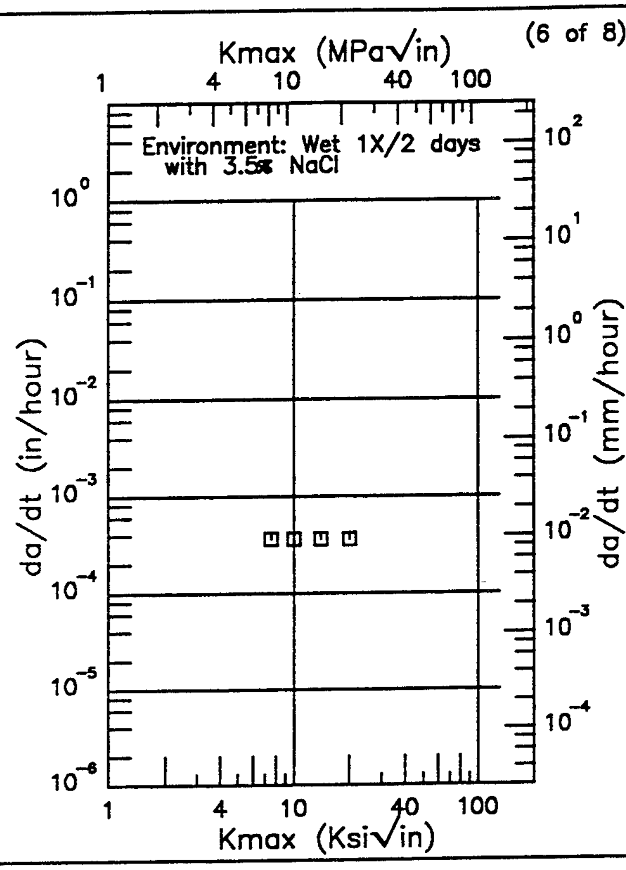
(5 of 8)



Kmax (Ksi√in)	da/dt (10^{-3}in/hour)

RMS % Error	

(6 of 8)



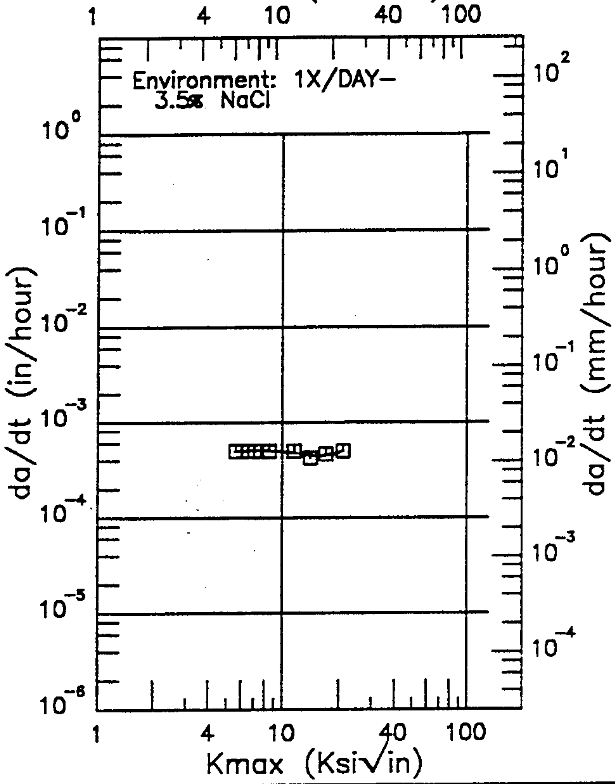
Kmax (Ksi√in)	da/dt (10^{-3}in/hour)

RMS % Error	

Figure 8.9.3.2.4 (Continued)

Condition/Ht: T651	
Form: 1 in. Plate	Specimen Thk: 1 in.
Specimen Type: DCB	Specimen Width: 3.5 – 5 in.
Orientation: S–L	A_o:
Yield Strength:	K_{Iscc}:
Ult. Strength:	Ref: 78313;84284

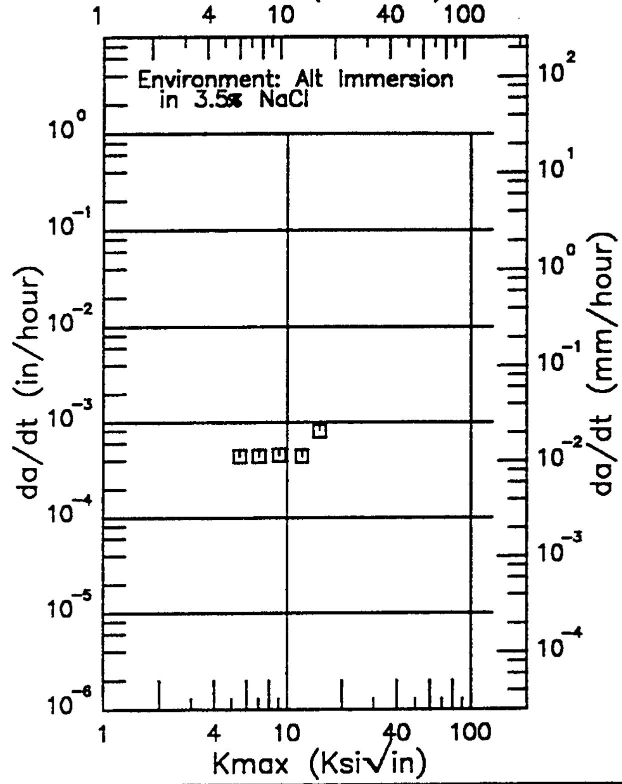
(7 of 8)



Kmax (Ksi√in)	da/dt (10^{-3}in/hour)
5.60 (min)	0.492
6.	0.498
7.	0.506
8.	0.505
9.	0.500
10.	0.492
13.	0.463
16.	0.443
20.	0.480
21.00 (max)	0.505

RMS % Error 3.44

(8 of 8)



Kmax (Ksi√in)	da/dt (10^{-3}in/hour)

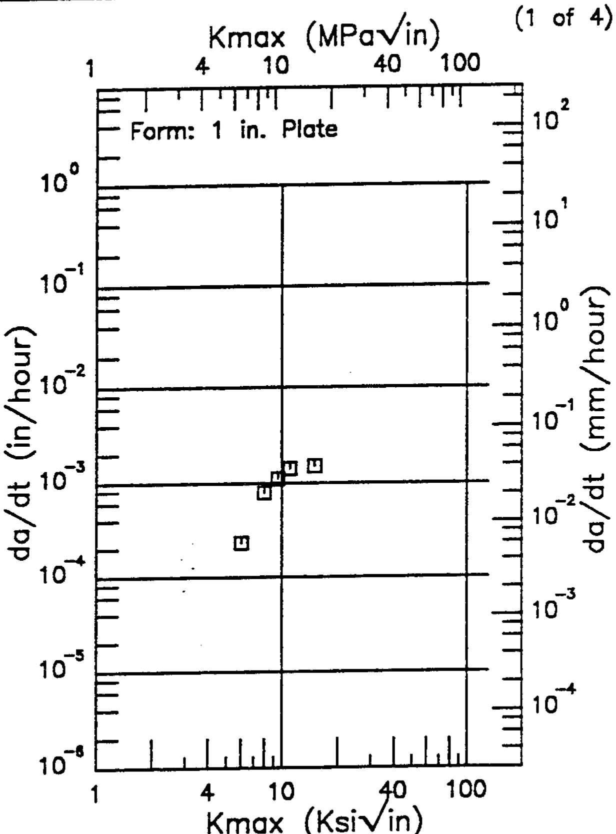
RMS % Error

Figure 8.9.3.2.4 (Concluded)

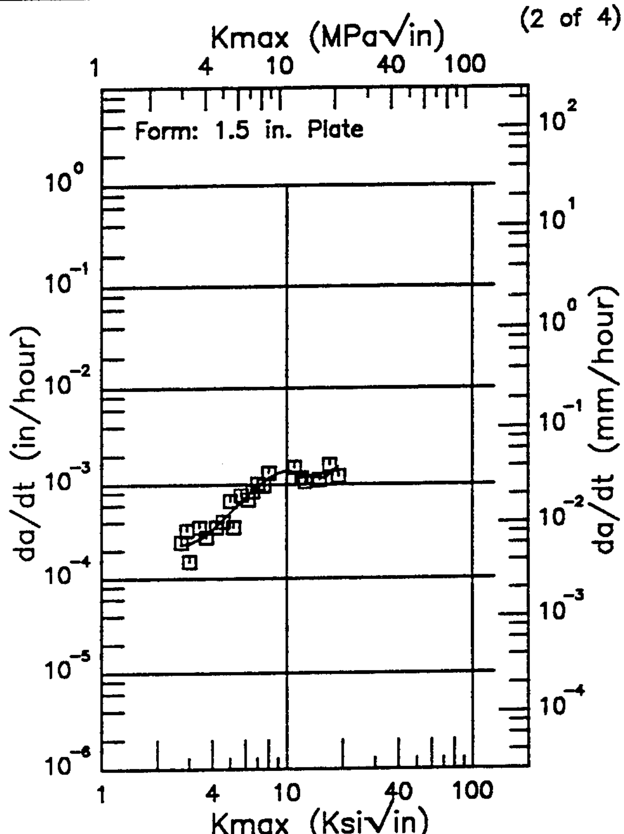
Condition/Ht: T651
Environment: 3X/DAY–3.5NACL
Specimen Type: DCB
Orientation: S–L
Yield Strength:
Ult. Strength:

Specimen Thk: 1 in.
Specimen Width: 5 in.
A_0:
K_{Iscc}:
Ref: 78313

(1 of 4)



(2 of 4)



Kmax (Ksi√in)	da/dt (10^{-3}in/hour)

Kmax (Ksi√in)	da/dt (10^{-3}in/hour)
2.70 (min)	0.230
3.	0.235
4.	0.270
4.	0.327
5.	0.498
6.	0.721
7.	0.961
8.	1.17
9.	1.33
10.	1.40
13.	1.24
16.	1.17
19.00 (max)	1.55

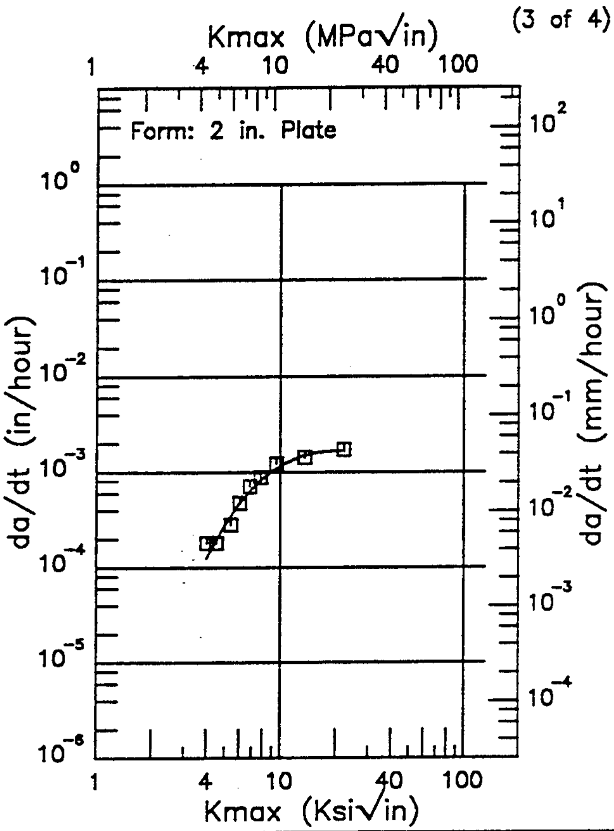
RMS % Error	

RMS % Error	
20.14	

Figure 8.9.3.2.5

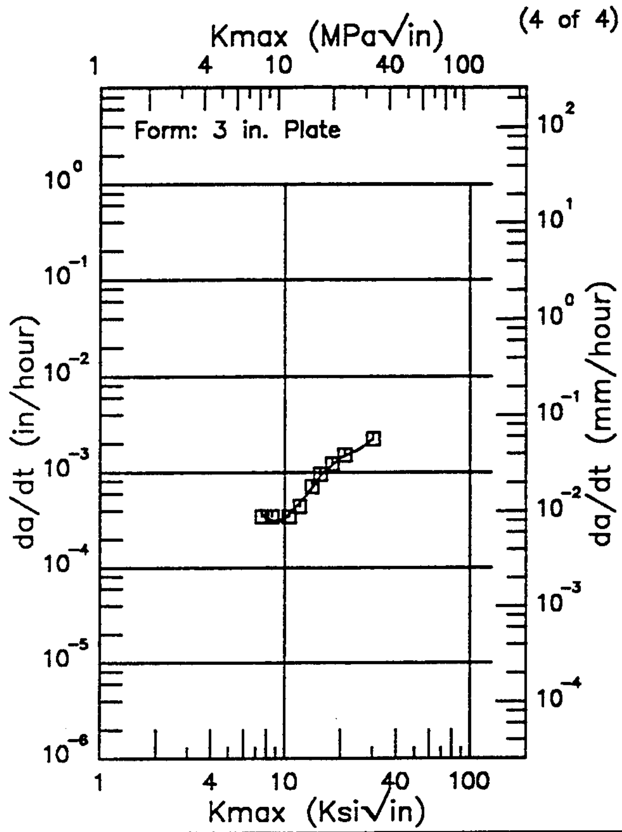
Condition/Ht: T651
Environment: 3X/DAY–3.5NACL
Specimen Type: DCB
Orientation: S–L
Yield Strength:
Ult. Strength:

Specimen Thk: 1 in.
Specimen Width: 5 in.
A_0:
K_{Iscc}:
Ref: 78313



Kmax (Ksi√in)	da/dt (10^{-3}in/hour)
4.00 (min)	0.126
5.	0.281
6.	0.471
7.	0.671
8.	0.859
9.	1.03
10.	1.17
13.	1.46
16.	1.60
20.	1.66
22.00 (max)	1.66

RMS % Error 16.92



Kmax (Ksi√in)	da/dt (10^{-3}in/hour)
7.50 (min)	0.378
8.	0.333
9.	0.309
10.	0.331
13.	0.564
16.	0.963
20.	1.43
25.	1.71
30.00 (max)	2.20

RMS % Error 5.87

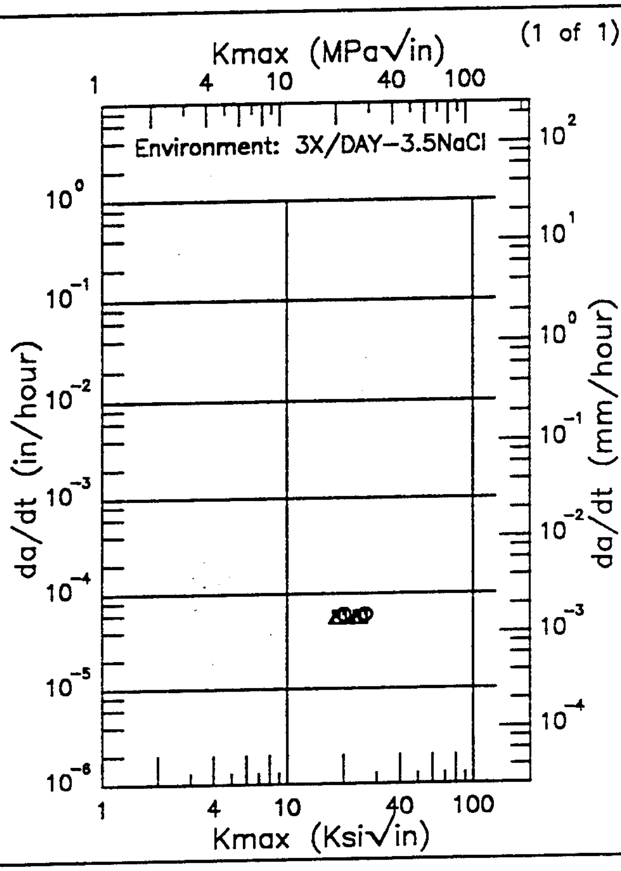
Figure 8.9.3.2.5 (Concluded)

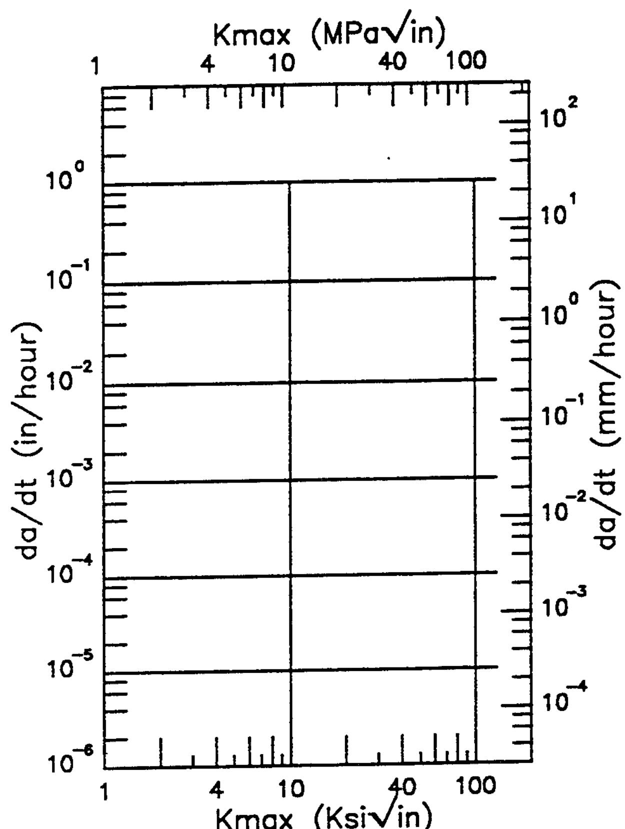
7075

Condition/Ht: T7351
Form: 1 – 1.5 in. Plate
Specimen Type: DCB
Orientation: S–L
Yield Strength:
Ult. Strength:

Specimen Thk: 1 in.
Specimen Width: 5 in.
Ao:
KIscc:
Ref: 84284;84286

(1 of 1)





Kmax (Ksi√in)	da/dt (10^{-3}in/hour)	Kmax (Ksi√in)	da/dt (10^{-3}in/hour)

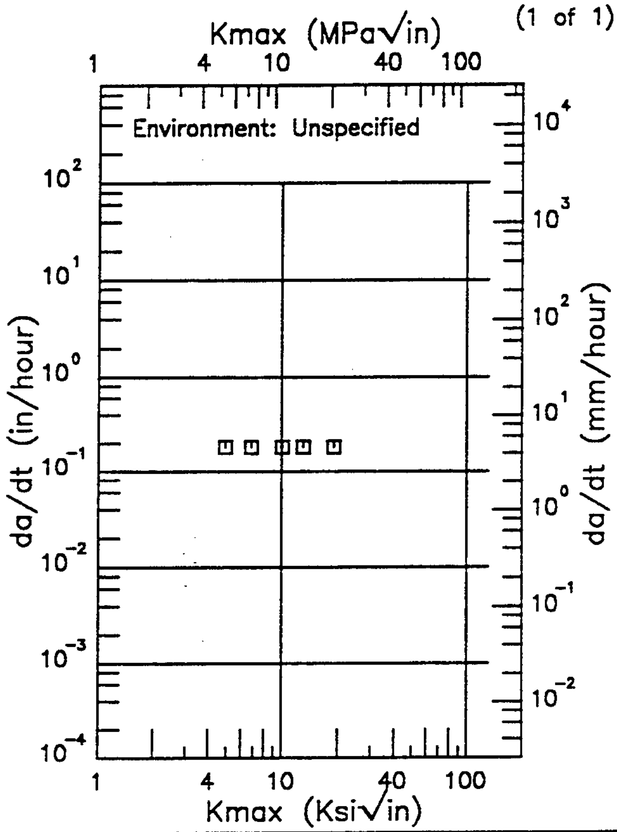
RMS % Error		RMS % Error	

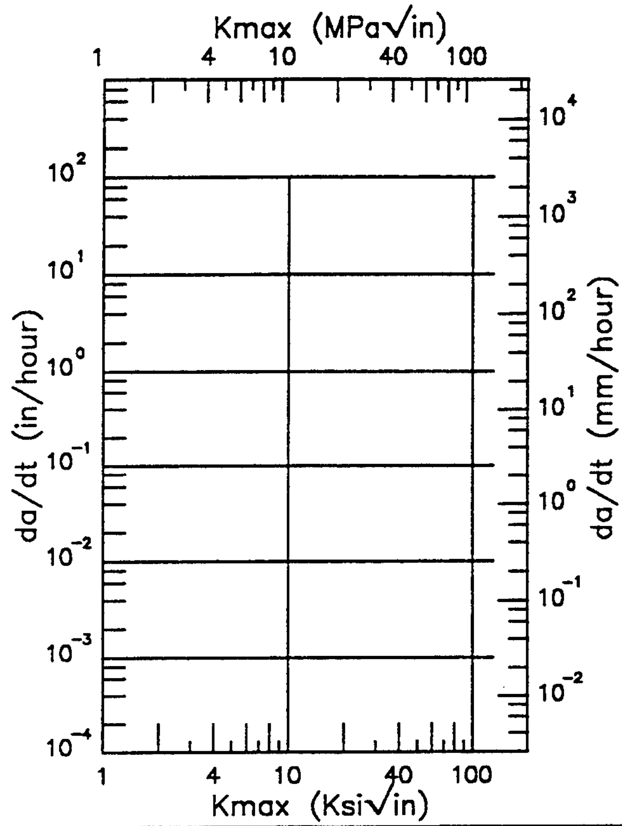
Figure 8.9.3.2.6

Condition/Ht: UNDERAGED 72HR 158F
Form: 1 in. Plate
Specimen Type: DCB
Orientation: S–L
Yield Strength:
Ult. Strength:

Specimen Thk: 1 in.
Specimen Width: 5 in.
A_0:
K_{Iscc}:
Ref: 84286

(1 of 1)





Kmax (Ksi√in)	da/dt (10^{-3}in/hour)	Kmax (Ksi√in)	da/dt (10^{-3}in/hour)

RMS % Error		RMS % Error	

Figure 8.9.3.2.7

TABLE 8.9.3.3

K_{Iscc} SUMMARY FOR ALUMINUM ALLOY 7075

Condition/ Heat Treat	Prod Form	Test Temp (°F)	Spec Or.	Yield Str (Ksi)	Envir.	Specimen Design	Specimen Width (in)	Specimen Thick (in)	Prod Thk (in)	Crack (in)	K_Q (Ksi√in)	K_{Iscc} (Ksi√in)	Test Time (min)	Test Date	Refer
T6	P	R.T.	S-L	73	3.5% NaCl	DCB	4	1	1	---	23	19	---	1968	84331
T651	P	R.T.	L-T	70.2	3.5% NaCl	TDCB	5	1.25	3	---	30	28.3	---	1971	84360
					Air 74% RH	TDCB	5	1.25	3	---	30	25.3	---	1971	84360
					Dist Water	TDCB	5	1.25	3	---	30	24	---	1971	84360
			S-L	66.7	Industrial Atm	CT	2	1	2.5	---	19.6	10	---	1973	86688
					Salt-Dichromate-Acetate	CT	2	1	2.5	---	19.6	5	---	1973	86688
					Seacoast Atm	CT	2	1	2.5	---	19.6	10	---	1973	86688
				78	3.5% NaCl	DCB	4	1	1	---	21	17	---	1968	84331
	E	R.T.	T-L	---	Ethanol	DCB	3	0.75	---	---	---	7	---	1969	75787
						DCB	3	0.75	---	---	---	9	---	1969	75787
			L-R	---	Carbon Tet	---	0.75	4	---	3	---	---	---	1969	75787
						---	0.75	4	---	3	---	---	---	1969	75787
T73	F	R.T.	T-L	62	S.T.W.	DCB	5.5	1	---	---	42	>25	64920	1976	RI006
T7351	P	R.T.	L-T	54.5	JP-4 Fuel	BWOL	3.083	1.244	1.25	1.36	---	>30.8	148320	1977	MA005
						BWOL	3.095	1.251	1.25	1.36	---	>31	148320	1977	MA005
					Sim. Sea Water	BWOL	3.083	1.25	1.25	1.36	---	>31	195840	1977	MA005
						BWOL	3.086	1.251	1.25	1.37	---	>30.8	195840	1977	MA005

TABLE 8.9.3.3 (CONTINUED)

K_{Iscc} SUMMARY FOR ALUMINUM ALLOY 7075

Condition/ Heat Treat	Prod Form	Test Temp (°F)	Spec Or.	Yield Str (Ksi)	Envir.	Specimen Design	Specimen Width (in)	Specimen Thick (in)	Prod Thk (in)	Crack (in)	K_Q (Ksi√in)	K_{Iscc} (Ksi√in)	Test Time (min)	Test Date	Refer
T7351 (cont'd)	P (cont'd)	R.T (cont'd)	L-T (cont'd)	57.8	JP-4 Fuel	BWOL	3.087	1.251	1.25	1.37	---	>26.4	148320	1977	MA005
						BWOL	3.088	1.253	1.25	1.36	---	>26.5	148320	1977	MA005
					Sim. Sea Water	BWOL	3.086	1.249	1.25	1.38	---	>26.3	195840	1977	MA005
						BWOL	3.086	1.25	1.25	1.36	---	>26.2	195840	1977	MA005
			T-L	53.2	3.5% NaCl	TDCB	5	1.25	4	---	29	23.9	---	1972	84362
					Dist Water	TDCB	5	1.25	4	---	29	24.8	---	1972	84362
			S-L	---	S.T.W.	DCB	5.5	1	2	---	37	15	61680	1976	RI006
						DCB	5.5	1	2	---	37	>13.1	76140	1976	RI006
				52	3.5% NaCl	DCB	4	1	1	---	24	21	---	1968	84331
				55.1	Industrial Atm	CT	2	1	2.5	---	21	20	---	1973	86688
					Salt-Dichromate-Acetate	CT	2	1	2.5	---	21	19	---	1973	86688
					Seacoast Atm	CT	2	1	2.5	---	21	20	---	1973	86688
T73511	EB	R.T.	L-T	66	F.C.S.	DCB	5.5	1	3	---	41	>34	75240	1976	RI006
					S.C.S.	DCB	5.5	1	3	---	41	35.6	75240	1976	RI006
			S-L	58	S.T.W.	DCB	5.5	1	3	---	41	>19.5	112200	1976	RI006
						DCB	5.5	1	3	---	41	>21	59040	1976	RI006
						DCB	5.5	1	3	---	41	>21.3	60120	1976	RI006

TABLE 8.9.3.3 (CONCLUDED)

K_{Iscc} SUMMARY FOR ALUMINUM ALLOY 7075

Condition/ Heat Treat	Prod Form	Test Temp (°F)	Spec Or.	Yield Str (Ksi)	Envir.	Specimen			Prod Thk (in)	Crack (in)	K_Q (Ksi√in)	K_{Iscc} (Ksi√in)	Test Time (min)	Test Date	Refer
						Design	Width (in)	Thick (in)							
T7352	F	R.T.	S-L	56.3	3.5% NaCl	CANT	1.4	0.7	6	---	20.1	18	---	1972	82675
T7651	P	R.T.	L-T	63	F.C.S.	DCB	5.5	1	2	---	40	>24	75240	1976	RI006
					S.C.S.	DCB	5.5	1	2	---	40	>26.5	60180	1976	RI006
						DCB	5.5	1	2	---	40	>23.5	75240	1976	RI006
					S.T.W.	DCB	5.5	1	2	---	40	>21.5	83520	1976	RI006
						DCB	5.5	1	2	---	40	>22	76140	1976	RI006
			S-L	---	S.T.W.	DCB	5.5	1	2	---	40	12.7	76140	1976	RI006
						DCB	5.5	1	2	---	40	12.7	76140	1976	RI006
						DCB	5.5	1	2	---	40	12.8	76140	1976	RI006
						DCB	5.5	1	2	---	40	13.1	83520	1976	RI006
T76511	E	R.T.	T-L	64.5	3.5% NaCl	DCB	---	---	---	---	31.8	29.1*	---	1973	86212

* specimen thickness does not meet minimum requirements of $2.5\left(\frac{K_{Iscc}}{\sigma_{ys}}\right)^2$